Bulletin

Supplement
Report of the
Provost's Task Force
on the Life Sciences

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Committees approve fee increases

'No other way to maintain quality of teaching and research,' says Eastman

Maximum permissible increases in tuition fees were approved by the Planning & Resources Committee Feb. 25 and by the Academic Affairs Committee Feb. 28, despite speeches of protest by student leaders.

For the largest group of students, those in arts and science, the increase amounts to 17.6 percent or $125 — from $710 to $835. For the seven students in the BSc in dentistry program, however, the increase amounts to 53.9 percent or $302 — from $560 to $862.

Dentistry professor J.T. Mayhall told the Academic Affairs Committee the seven women in the two-year program are dental hygienists who've given up full-time jobs to be trained at university to fill "the desperate need" for teachers in community colleges.

"Most of them have had to save for a long time to come to U of T. They're living on a very low budget and working on Saturdays to support themselves. They'd be willing to accept a minimal increase but they had no idea when they entered the program that the fees would go up 53.9 percent. Five of these individuals might not be able to go on to the second year. And this is the only program of its type in the country."

Harry Eastman, vice-president (research and planning) and registrar, said the unusually high increase was being proposed because the BSc in dentistry fee had been "far below both the formula fee for the program and actual fees for comparable programs."

In a straw vote, the Academic Affairs Committee approved a motion by student member Tom Simpson that "the $2,000 additional income generated by the 53.9 percent increase . . . is not a benefit that would outweigh the hardship placed upon these students".

Professor J.W. Browne and student Brian O'Riordan, both members of the Academic Affairs Committee, objected to being presented with a "package" of fee increases and no opportunity to debate and decide the merits of individual increases.

Vice-President and Provost Donald Chant told the committee the University's 1980-81 budget had been drawn up on the basis of income from the proposed fee increases and Professor Eastman said there would be "no other way to get that revenue", needed to maintain the quality of teaching and research. He added that the budget committee was considering proposals to establish scholarship, bursary, and fellowship funds.

Beverley Batten, a student member of both the Academic Affairs and the Planning & Resources Committees, said bursaries could go unclaimed because students would have to be at the University before applying for them and that would mean "coming here blind".

A fund set up to help needy visa students pay differential fees went unused, she said, because the students could not apply until they were at the University and they were unlikely to come without assurance of adequate funding.

David Jones, president of the Students' Administrative Council, addressing the Academic Affairs Committee, recalled that committee's response to the imposition, in 1978-79, of the differential fee for visa students.

In a policy statement, the committee had said differential fees "offended the collective conscience of the entire University community" and would "prove seriously detrimental to the academic quality of this University" by

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Commerce increase reconsidered

A 40 percent fee hike for the University's more than 1,250 commerce students is being reconsidered by the administration following an announcement by education minister Bette Stephenson that the proposed increase violates provincial guidelines.

The students, now paying a $710 tuition fee, were faced with a $300 increase this fall, but Stephenson said the increase should not exceed $125. If the University proceeds with its intention to overcharge commerce students by a total of about $210,000, she said, that amount would be subtracted from the government's operating grant to U of T.

Harry Eastman, vice-president (research and planning) and registrar, told the *Bulletin* the University definitely will not levy a fee increase that would result in having its provincial grant cut.

The discrepancy between government and University calculations resulted from the fact that commerce courses come under the Faculty of Arts & Science, instead of being in a separate faculty as is the case in other Ontario universities, said Professor Eastman.

"We have always worked out the commerce fee on the basis of cost per course under the government's formula fee for arts and science, though until now, commerce students have been exempted from paying for one mandatory course taken in each of the second, third and fourth years."

In addition to the government's 7.5 percent increase in formula fees for all university courses, U of T wanted to add on an allowable 10 percent as well as starting to charge for the extra courses taken by commerce students, beyond the usual five courses per session taken by other arts and science students.

"Insisting we limit our increase is a major decision on the part of the ministry because they've always known how our commerce fees were calculated," says Eastman. "This requires us to change the basis on which those fees are charged."

Provost's review praises new TYP

TYP student writing one of the tests designed to help alleviate exam anxiety

Four years after it was suspended for a year over personality conflicts and political tensions, the University's Transitional Year Program (TYP) has received a positive appraisal from an eight-member provostial committee.

The one-year full-time academic program is designed to help disadvantaged students prepare for university studies. Launched at Innis College in 1970, it was suspended six years later after a committee, headed by Professor Harry Crowe of York University, reported that TYP was administratively out of control and was suffering from Marxist influence, racist tensions and incompetent teaching.

The program was revamped and reinstated in September 1978, on the recommendation of a task force led by Reverend John M. Kelly. He also headed the most recent review committee, which reports being "impressed with the effectiveness and value of the reinstated program", and adds that "the problems which had bedevilled the earlier program no longer exist and . . . morale is high".

Professor A. Martin Wall, director of the reinstated TYP, is praised for his "high degree of administrative and academic competence combined with imagination and sound judgement". His staff is described as being "very competent and motivated".

Together, says the report, Prof. Wall and his staff have been modifying the program to develop the most effective

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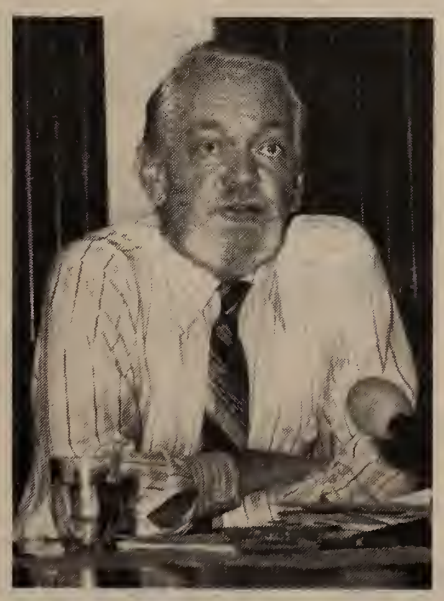
Chant receives alumni faculty award



Donald A. Chant, vice-president and provost, has been selected as the recipient of the fifth Alumni Faculty Award, presented to a faculty member annually for academic excellence, outstanding service to the University and the general community.

A Canadian pioneer in the environmental field and well-known as a co-founder of Pollution Probe, Professor Chant is an entomologist who has directed his research interests for over 20 years to the development of effective and safe alternatives to the use of chemical pesticides for the control of insect pests. Since 1975, as vice-president and provost, he has been the senior academic officer at the University.

Born in Toronto, he is a graduate of the University of British Columbia, and

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Addiction Research Foundation

Scientist I

The Statistical Information Section of the Addiction Research Foundation requires a Scientist. Under the general supervision of the Head, Statistical Information Section, the successful applicant will compile, assess and develop statistical and other indicators of international production, trade and consumption of alcohol; analyze data available and devise methods for improving data quality; plan, develop and conduct the acquisition of additional data, and prepare reports and comprehensive statistical compendium thereon; and perform other duties.

Qualifications: Ph.D. in Economics or Sociology with one year's experience, or equivalent education and experience; ability to interpret National Accounts and/or Trade Statistics; some accounting knowledge preferred.

Salary Range: $18,400 to $23,600.

Senior Research Assistant

The Alcohol Abuse Identification and Early Intervention Project requires a person to assume major responsibility for the data analysis component. This project is aimed at identifying socio-behavioural and biomedical factors that are key indicators of alcohol abuse and dependence. Specific duties include the co-ordination of data collection, running of statistical analyses including scaling and other multivariate procedures, scientific computer programming, psychometric evaluation of assessment instruments, reviews of the literature and writing of research reports.

Qualifications: An M.S. or M.Sc. in the behavioural sciences or biostatistics is preferred, with advanced knowledge of research design and multivariate statistics, psychometric principles, and computer-based analyses. A keen research interest is highly desirable.

This is a two-year term position.

Salary range: $15,700 — $20,100

Please submit resumés to:
Christina Kilgour
Senior Staffing Officer
Personnel Department
Addiction Research Foundation
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Fee increases approved

Continued from Page 1

effectively limiting access of large numbers of students from various cultures and social classes.

Similarly, said Jones, accessibility would be seriously undermined by the proposed tuition fee increase.

Lee Walker, president of the Graduate Students' Union, told the committees the proposed increases would place the University's finances at risk and jeopardize the fundamental principle of accessibility.

"The belief that increasing fees will increase funds rests on the completely unfounded premise that enrolment will not be affected by such an increase. In 1977-78, both Ontario and Manitoba increased tuition by 16 and 20 percent respectively. In both provinces, contrary to expectations, enrolment declined by 3.2 percent.

"At the graduate level, a one percent decline in enrolment would produce an estimated $1 million loss in graduate funding unit (GFU) funding. The increased funds from the tuition hike would only produce about $220,000 so a one percent decline in enrolment would produce a $780,000 loss of funds to this University."

Walker said a School of Graduate Studies task force reported that the minimum financial demands on a graduate student for food, housing, clothing, books, and tuition in 1977 was $6,000. With inflation, she said, the minimum figure for 1980-81 would be well over $8,000 without any tuition fee increase, yet graduate students are barred from OSAP grants and the maximum available to them in OSAP loans in any single year is $3,600.

Jones criticized OSAP policy for restricting students' eligibility for grant assistance to four years.

"This effectively denies grants to students enrolled in graduate or professional degree programs. So students contemplating professional study will often complete only the minimal pre-professional requirements. Instead of taking a full BA or BSc, they will take the requisite year or two of arts and science study. This might fulfil the requirements of the professional schools but it is doubtful that it will provide the solid post-secondary education needed to respond to the challenges of the modern world."

Michael Schumacher, president of the Association of Part-time Undergraduate Students, questioned the justice of students being "forced to subsidize a university for costs that should be addressed elsewhere".

"A commitment to an educated populace has been replaced by a commitment to a balanced budget. And post-secondary education has been caught in the middle. The government has passed the buck to the institution and the institution to the student. Political accountability has been forfeited for political expediency."

Professor Robert Callaghan and government appointee Rose Wolfe, both members of the Academic Affairs Committee, suggested the administration had not done enough to focus public attention on the University's serious financial difficulties.

The provincial government was criticized by Schumacher for ignoring requests to have an accessibility study and by Walker for acting unilaterally on the tuition fee increases.

"The autonomy provided by the (education) ministry to the universities to set tuition fees above the basic formula fee without penalty has never been subjected to either public discussion or scrutiny by the provincial legislature."

On New Year's Eve, the government announced a 7.5 percent increase in formula fees and allowed the universities to add up to 10 percent more.

Batten objected to U of T's administration setting out only one fee schedule — based on maximum increases.

"If they'd presented at least one other fee schedule, based on moderate increases, we could have tried to work out a compromise. Instead, the administration has polarized the argument between a maximum increase and no increase at all."

The University's proposed schedule of fee increases will come before Governing Council March 20.

Review praises new TYP

Continued from Page 1

academic courses for university preparation. A survey science course that once included some biology and physics now focuses on a study of human nature as viewed by Freud, Marx and Darwin. The natural and physical sciences proved demoralizing to students with atypical academic backgrounds and the transitional value was questionable, Wall decided, since few, if any, of the students went on to study those subjects at university. Other changes include the incorporation of more and varied tests into the course, to help students overcome exam anxiety.

In addition to the survey science course, the program comprises courses in English literature and composition (stressing essay writing) and one first year course in the Faculty of Arts & Science.

The TYP review committee commends admissions procedures for being well organized and comprehensive —attracting students of ability and motivation. However, the report suggests over-recruiting to maintain an optimum enrolment of 50 despite inevitable drop-outs and no-shows.

Since the program was reinstated, 60 have completed it and 47 of those were accepted into university. Current enrolment in TYP is 37.

TYP's relationship to Innis College had been ambiguous so the reinstated program was set up in its own quarters, in the former Central Public Library on College St. The result, says the review committee, is a new sense of cohesiveness within the staff and student bodies.

However, the committee expresses reservations about the tutors' offices being inconveniently separated from the instructional areas and Wall said in an interview he would like to have facilities accessible to students in wheelchairs.

The program's six tutors have half-time appointments and would like more, as well as more money — issues the committee says did not fall within its terms of reference. Nevertheless, the report points out that "the instructional needs of this program are different from and more demanding of teaching and counselling resources than are many others within the University".

To bolster financial support, the committee suggests the University appeal again to the Ontario government for a full basic income unit (BIU) per student enrolled in TYP. The program currently receives only 70 percent of a BIU per student.

The report also suggests that the University take steps to ensure that sponsored immigrants be as eligible as landed immigrants for OSAP grants and loans.

In conclusion, the review committee says "the TYP has been remarkably successful in attaining its objectives . . . and much of that success can be attributed to its presence within the University setting. The program is unique in the Canadian university system.

"We're proud of what the program has done and we're delighted that the report recognizes that we've turned things around," says Wall. "It vindicates us."

Radical design for non-farm rural living

conceived by landscape architecture professor

by Pamela Cornell

A rambling ranch-style house on a two-acre lot, with a pony for the children and room for the dog to run.

Sound pleasant? A lot of people think so. Unfortunately, that pattern of development is creating economic chaos.

Rich farmland is being gobbled up. Non-renewable energy is being devoured, both to heat windswept detached houses and to fuel cars carrying commuters long distances to urban employment and commerce. Taxes are soaring to subsidize areas where low-density sprawl doesn't provide a tax base capable of supporting essential social and physical services.

These alarming trends led landscape architecture professor Charles Simon to explore a more resource-efficient development form. An architect and planner in private practice, he recently completed a study for the Rural Development Outreach Project at the University of Guelph.

As an alternative to wasteful sprawl, Simon proposes the clustering of housing units to reduce land consumption, along with the cost of road building and snow removal. Yet, unlike many "high density" developments, each dwelling would have direct contact with the ground and afford long views of the countryside. To avoid the "dormitory" drawbacks of such communities, small agricultural, industrial and service ventures could provide employment while filling local needs.

Energy supply systems would be based largely on renewable resources, such as sun, wood, and solid waste combustion. Water would be supplied by wells, rainwater, and standing water; sewage would be handled by composting, biomass processing, or methane digestion.

Most rural subdivisions have conventional plumbing systems, so each lot is generally large enough to guarantee a septic field (and an area to replace the field in case it fails), as well as to assure that an adequate water supply will be found on the property.

However, demand for water can be reduced, says Simon, by separating sewage into "blackwater" (human waste) and "greywater" (sinks, tubs, showers, etc.). With a simple settling and filtration system, greywater is purified enough to be stored in a holding tank and re-used for flushing toilets, washing cars, and watering lawns.

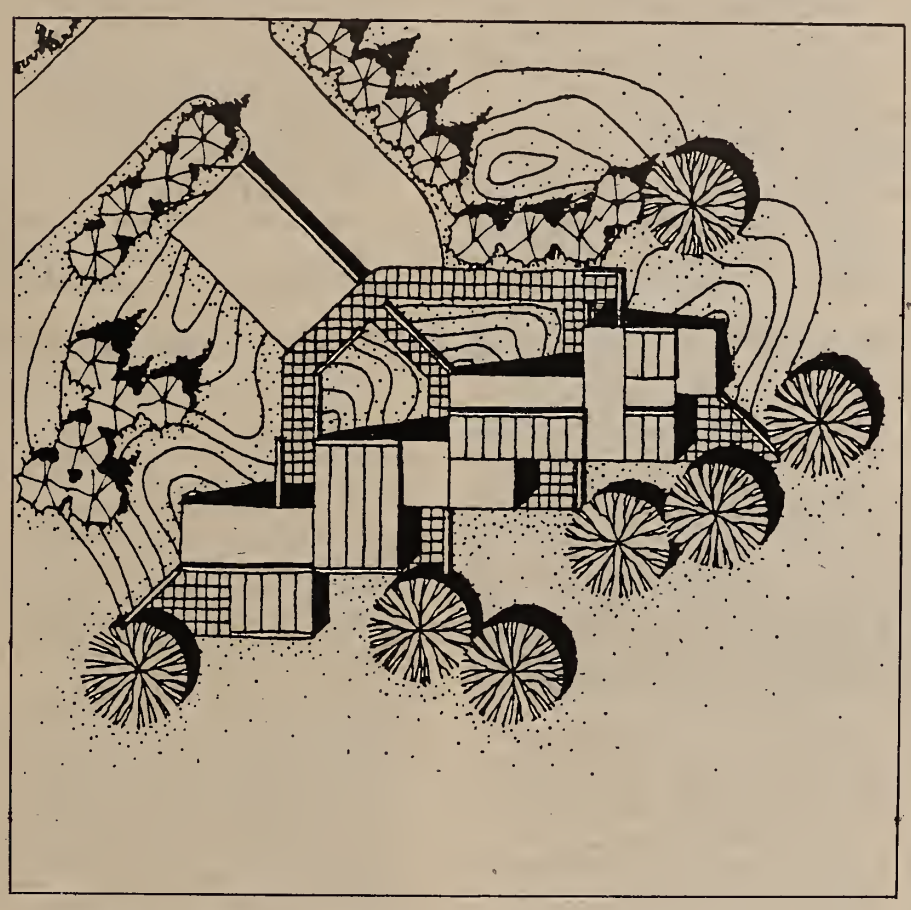
A composting toilet would eliminate the traditional water closet, which contributes 40 percent of the sewage outflow from a typical residence. That would mean a decrease in the length of tile required in the septic field, facilitating smaller lot sizes and higher-density development. Also, the elimination of the blackwater component would reduce chances of groundwater pollution.

Those alternative waste-handling systems, combined with using rainwater, can reduce demand for wellwater by almost 50 percent, he says.

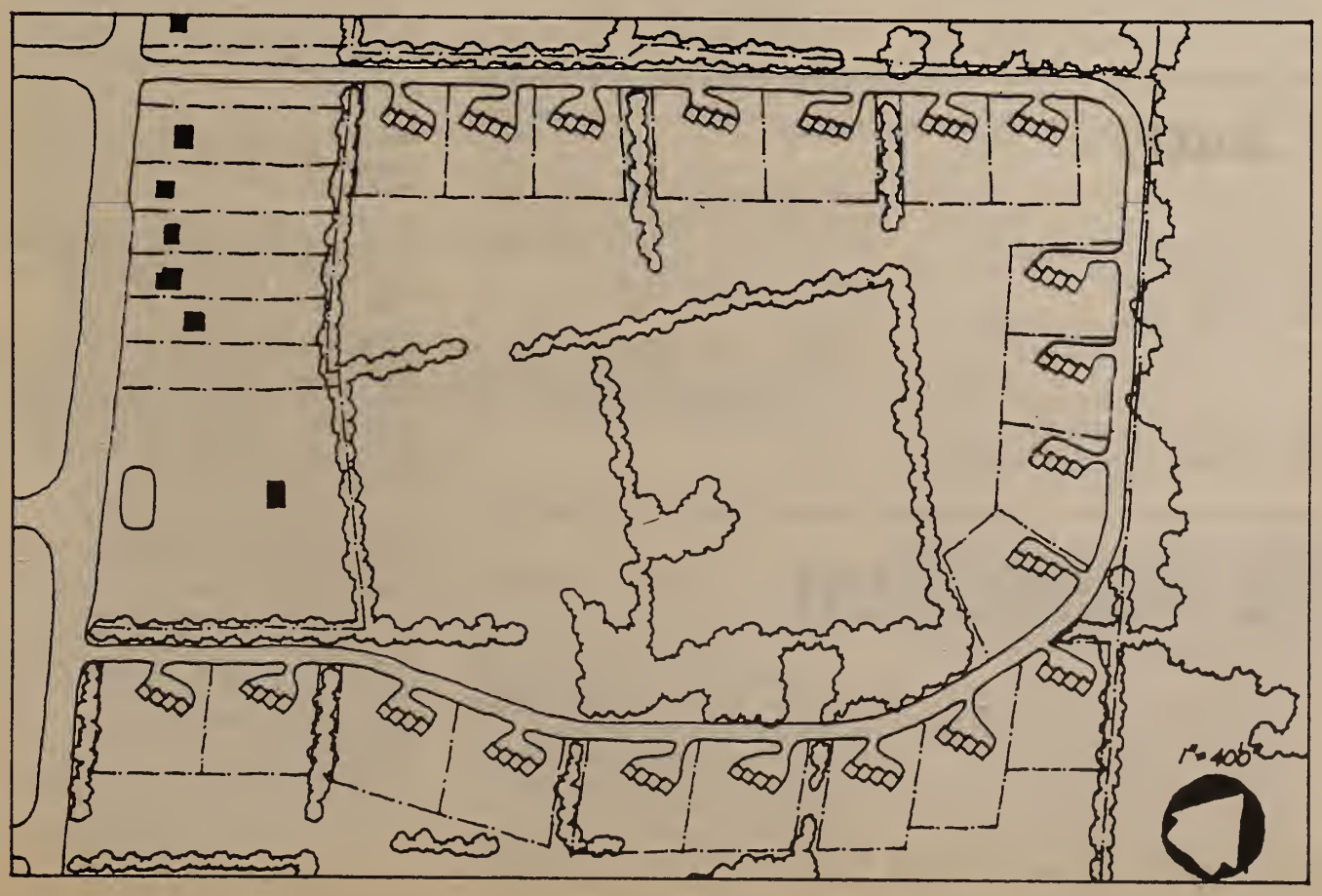
Variously designed clusters of four, eight, and 12 dwellings would feature such benefits as shared walls, front southern exposures, back northern exposures, hedgerows for climatic protection and for separation of private and semi-private areas. Some cluster plans would include community buildings for parking, meeting, workshops, and storage.

Diversified energy-supply systems could be based on such renewable resources as

- "passive" solar heat for space heating and greenhouses
- "active" solar heat for domestic hot water supply
- small-scale hydro-electric generation for electrical supply
- wood stoves for space heating
- localized natural gas supply for industrial and some domestic use
- methane production (from agricultural and human waste) for industrial and agricultural use
- solid waste combustion for district heating or industrial use



This linear arrangement of houses is one of several cluster plans proposed by architect Charles Simon



An overall plan for 20 four-house clusters shows how density can be increased while maintaining some large tracts of agricultural land

But the ultimate non-renewable resource is land, says Simon. Between 1941 and 1971, the Canadian farm population decreased from 27 percent of the total populace to less than seven percent. Half that decline took place between 1966 and 1971.

More recently, he says, there has been a migratory trend out of the cities to non-farm rural living. Recent studies have shown that the population in the Toronto area is spreading out into the countryside as far as 100 miles from the city core. That spread takes in some of the most fertile agricultural land in the province.

The more fragmented a farmer's land becomes through subdivisions, the higher his operating costs and the lower his return. Conflicts between farmers and ex-urbanites arise over sounds and smells. Ex-urbanites demand better roads, garbage collection, and snow removal as well as increased police and fire protection. The farmer ends up paying higher taxes for services he neither needs nor wants.

"Trespassing and crop destruction become headaches, too," says Simon, "so it's not surprising that the farmer eventually accepts an urban price for his once-rural land, thus ending his risky and physically demanding enterprise."

To preserve foodland through cluster housing schemes, land-use would have to be designated within a planning framework. That raises the problem of compensation to farmers prevented, by planning restrictions, from selling their land for non-agricultural uses.

In some parts of the US, farmers are paid to forfeit the right to sell their land for development. The concept has been successful, says Simon, but no one has explored its feasibility under Canadian law.

He admits his cluster scheme could pose other problems, too. Property ownership plans would have to be worked out to ensure that wells, septic fields, and other systems would be properly maintained. Alternative waste-handling systems might contravene existing plumbing codes and health and environment regulations.

Cluster housing wouldn't appeal to those seeking the solitude of country living. For many, though, the most appealing feature of rural property is the price.

But as long as cities have all the industry and commerce, people will continue to commute, placing a continuous burden on roads and transit systems.

Sixty percent of workers living in Halton region travel by automobile to jobs in Hamilton and Metropolitan Toronto, says Simon. Yet while the demand for transportation is overwhelming, public transit is economically unfeasible because of the low-density development.

Even the densities in Toronto's suburbs can't support transit systems without large government grants, he says. A recent study showed that each Toronto Transit Commission rider in the suburbs is subsidized by $75 a year.

To reverse the trend towards economic centralization, smaller communities must become more economically independent by finding ways to attract or establish appropriate businesses and industries, such as market gardens, woodlots, and the manufacture of toys and furniture from local trees.

"Cities, in spite of their apparent wealth," says Simon, "are only secondary producers whose success depends on the health of rural areas. That's why current patterns of fringe urbanization must be seriously reconsidered."

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Can't promise not to increase enrolment

University of Toronto to tell Ontario Council on University Affairs

Some universities are worried that an increase in U of T's overall enrolment would be detrimental to the rest of the provincial system so the Ontario Council on University Affairs (OCUA) has asked if the University would promise either not to effect any such increase or to give at least three years' notice before doing so.

In a draft of the University's annual brief to OCUA, discussed by the Planning & Resources Committee Feb. 25, the University states its intention not to plan for any increase in total enrolment over the 1975-76 level but says some measure of unplanned increase might be inevitable.

OCUA has also asked the University if it would be prepared not to increase enrolment in any program — such as engineering — where registration constitutes a significant percentage of the system total. The University says it would be unwilling to do so because, by that standard, no enrolment increase could be made in seven of the nine programs admitting students directly from grade 13.

"An essential element of planning and monitoring the entire admissions and enrolment cycle," says the University's proposed brief, "is the adjustment of individual enrolment targets upward and downward in order to meet our overall enrolment target."

Responding to another OCUA question, the University says it has no plans for introducing new undergraduate programs or for making significant changes in emphasis of existing programs.

The University objects to an OCUA proposal that a special research and innovations fund be created by withdrawing funds from the total amount available under operating grants from the provincial government. OCUA would then make awards from the fund competitively on a project-by-project basis.

"We favour formula funding," says the U of T brief, "but not formula budgeting or any external control of the way the University allocates the funds available to it. The council's proposal would intrude on the basic principle of university autonomy."

The brief adds that if the objective is to provide additional support for research, OCUA should recommend that the government create a fund along the lines of the research council model.

"Awards from such a fund should cover full costs and should be made competitively to individual scholars on the basis of normally accepted procedures of peer review. As a matter of deliberate policy, the fund could be directed towards research in areas assigned high priority, but . . . any fund established along these lines should not be created by withdrawing funds that otherwise would be allocated under the operating grants formula."

The Planning & Resources Committee expressed general support for the responses in the proposed brief but referred it back to the administration to clarify a section on the role of the University of Toronto.

The revised brief will be discussed at the March 10 Planning & Resources Committee meeting and the March 20 meeting of the Governing Council before being forwarded to OCUA.

The Presidential Advisory Committee on Computing Facilties and Services

The Presidential Advisory Committee on Computing Facilities and Services is being revived with revised terms of reference and a revised membership.

Terms of Reference

On the initiative of the President and the vice-president (research and planning) and registrar, the advisory committee will review and develop recommendations for policies and objectives for the University's computing facilities and services. The committee's recommendations must be consistent with the general objectives of the University and its divisions and with policies that are developed to achieve and further these objectives. The committee will make its recommendations to the President through the vice-president (research and planning) and registrar. Recommendations accepted by the vice-president and President which affect or establish major policies will be submitted by the vice-president to the appropriate committee(s) of the Governing Council.

Principally the committee may be asked to review and develop recommendations in two broad areas:

1. Objectives for the administration and development of computing facilities and services.

2. Policies for the provision and use of computing services from all sources and for all purposes throughout the University, whether central, divisional, or external.

Particular concerns within these broad areas may include:

a. The resources needed centrally and divisionally to realize the objectives set for computing facilities and services.

b. Priorities and principles for allocating computer services.

c. The acquisition and subsequent maintenance of all new and upgraded equipment and software, whether to be acquired centrally or divisionally.

d. The compatibility and coordination of computing facilities and software throughout the University.

c. The security of the University's computing systems and the confidentiality of the data that they contain.

f. The relationship of the University's computing facilities and systems to corresponding facilities and systems outside the University.

Composition

The committee shall be constituted by these persons appointed by the vice-president (research and planning) and registrar: the director of the University of Toronto Computing Services (ex officio); the director of finance (ex officio); the chairman of the University of Toronto Computing Services Users' Committee (ex officio); the director of Business Information Systems (ex officio); the director of University planning and analysis (ex officio); the director of Student Record Services (ex officio); nine persons appointed on a three-year staggered schedule.

A chairman will be appointed by the vice-president from the membership. The chairman will set the agenda for the committee under the direction of the vice-president.

Membership of the Presidential Advisory Committee on Computing Facilities and Services

Professor H.W. Smith, Department of Electrical Engineering, *chairman*; Professor J.D. Bossons, Institute for Policy Analysis; D.J. Cohen, U of T Computing Services; M.E. Dedrick, director of finance; Professor R.H. Farquharson, Department of Germanic Languages & Literatures; Professor T.E. Hull, Department of Computer Science; David Keeling, director, Academic Records, Faculty of Arts & Science; Professor E.H. Lakien, assistant dean, Faculty of Management Studies; Professor E. Stewart Lee, chairman, Computer Systems Research Group; R.J. McGimpsey, director, Business Information Systems; J.N.T. Potvin, director, Division of Medical Computing, Faculty of Medicine; Professor G.F. West, Department of Physics; J.C. Wilson, director, Student Record Services; D.W. Lang, director, University Planning & Analysis; chairman of U of T Computing Services Users' Committee (still to be appointed); and Professor Eva Swenson, coordinator, University Information Systems, *secretary*.

Pathology search committee

A search committee has been established to recommend a chairman of the Department of Pathology to succeed Dr. Emmanuel Farber whose term ends on June 30, 1980.

The membership of the committee is: Dr. Brian Holmes, dean, Faculty of Medicine, *chairman*; Dr. M.J. Phillips, Department of Pathology, Hospital for for Sick Children; Dr. J.B. Hay, Department of Pathology; Dr. D.W. Chamberlain, Department of Pathology, Toronto General Hospital; Dr. David Goldberg, Department of Clinical Biochemistry, Banting Institute; Dr. Bernard Langer, Department of Surgery; and a representative of the School of Graduate Studies.

The committee welcomes suggestions and these may be submitted, preferably in writing, to the chairman or any committee member.

In Memoriam

Father Arthur G. Gibson, professor of theology, St. Michael's College, Jan. 17.

Fr. Gibson was born in Granton, Ont. in 1922. As an Anglican he attended Trinity College, graduating with a BA in 1942. Before serving in the second world war, he studied at Princeton University and while there was received into the Catholic faith.

In 1953 he was awarded a PhilL from the Pontifical Gregorian University in Rome and in 1955 an STB. He studied for the priesthood at the Catholic University of America and was ordained in 1964. In 1966 he was appointed to St. Michael's College and was made a full professor in 1969. From '69 to '75 he was the chairman of the Department of Religious Studies at St. Michael's. He continued teaching until the fall of 1979 when ill health led to his hospitalization.

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What type of theatre did Champlain enjoy?

You can find out in new journal to be published by U of T and Queen's

The Graduate Centre for the Study of Drama and the Department of Drama at Queen's University will shortly begin publication of a new journal devoted to the history of theatre in Canada.

History of Theatre in Canada, which has been officially adopted by the Association for Canadian Theatre History/Association d'Histoire du théâtre au Canada, will be published semi-annually, with the first issue appearing this spring.

"There are two or three centuries of theatre history we don't know much about," says Professor Ann Saddlemyer, Department of English and a co-editor of the journal. Canadian theatre history, she explains, goes back as far as 1606, when a masque was performed on a boat in New France for the pleasure of Champlain, who watched a trilingual company of Indians, French and English. Subsequently, British, American and French touring companies performed in a string of opera houses that dotted the railway routes. Sarah Bernhardt often toured Quebec.

The journal, the first of its kind, is considering a wide range of material including theatre programs and posters, and documents of performers, actor-managers and theatre buildings, says Saddlemyer, adding that historians are still discovering lost Canadian plays.

Scarborough's Stratford summer seminars

Scarborough College would like to take you on a midsummer's dream vacation to the Stratford Festival in August.

If you enjoy good theatre and congenial companionship with like-minded people, the college's Stratford summer seminars might be just the kind of summer break you've been looking for.

The five-day program includes at least five festival plays, several seminars with members of the Festival Theatre company and staff, and two or three academic colloquia with visiting Shakespearean scholars.

The program was initiated last August under the direction of Andrew Patenall, professor of English, Scarborough College, for one week and proved so successful that it's being extended to three separate sessions this year — August 11-16, August 18-23 and August 25-30.

The non-credit seminars are planned as academic holidays and as complements to university undergraduate courses, but are open to anyone with an interest in the theatre, regardless of background. Last year's contingent included people ranging in age from 18 to 83 from a broad cross-section of occupations and educational levels.

Each of the three sessions will be limited to 50 people. The format of each week will be similar in that the same plays will be seen but speakers may differ. But the second session, from August 18 to 23, is being developed especially for students and teachers of drama and theatre arts.

A detailed schedule of plays, speakers and seminars will be available shortly after the publication of the Stratford Festival schedule in early March. At that time participants will be notified of ticket prices, seminar locations and how to arrange accommodation.

Cost of the seminars — excluding tickets and accommodation — is $60.

Last year's plays included *The Importance of Being Earnest, Henry IV*, parts one and two, *Richard II*, and *Othello*. The seminar agenda covered everything from theatre funding to costume design to the function of theatre reviewers and critics. Speakers included Arnold Edinborough, Canada's dean of arts critics, actor Nicholas Pennell, designer John Pennoyer and directors Peter Moss and Urjo Kareda, who is a former *Toronto Star* reviewer. This year's lineup promises to be just as informative and entertaining.

Most of the seminars will be held at Conestoga College, located adjacent to the Festival Theatre. Participants will also have access to books, reference material and videotape equipment at the Stratford Public Library and to the Festival archives.

Although registration cannot begin until after publication of Festival schedules in March, places may be reserved by writing to Stratford Summer Seminars, Scarborough College, West Hill, Ontario, M1C 1A4 or calling 284-3185 or 284-3150.

Soundings: Canada in the 1980s

U of T's first alumni college

The theme "Soundings: Canada in the 1980s" will highlight the University's first Alumni College to be held the weekend of May 16-19.

U of T alumni and their friends will have the opportunity to listen to lectures by noted academics on topics relating to the challenges of the 1980s and exchange ideas during discussion periods. Lectures will be in University College's Sir Daniel Wilson Hall. Residence in nearby Whitney Hall is optional.

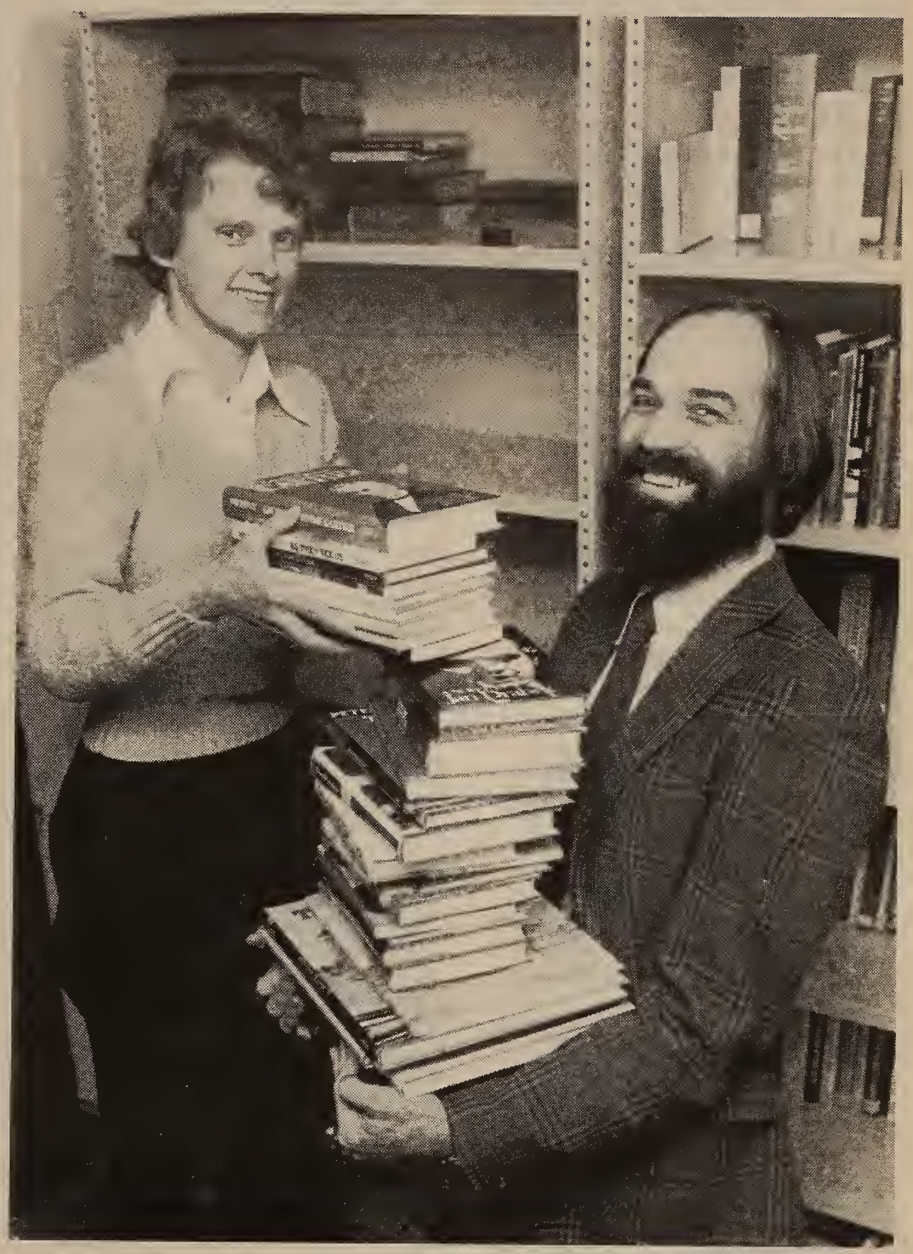
The academic coordinator for this intellectual homecoming weekend is Vice-Provost William Saywell. The Alumni College is a cooperative effort of the Office of the President, the U of T Alumni Association, the Department of Alumni Affairs, and the School of Continuing Studies.

Costs range from $100 per person for tuition, meals and social events to $245 per couple, including residence for three nights.

For program and more information contact: William Gleberzon, Alumni Affairs, 978-8991, or Joanne Harack Hayne, School of Continuing Studies, 978-2400.

The Book People

University College's Great CanLit Rescue



Librarian Ingrid Epp and UC principal G. Peter Richardson with part of the McLelland & Stewart collection donated to the Laidlaw Library

This is a story about cutbacks, but, for a change, not ours, This time the financial crunch has hit the publishing world. In one of several drastic cost-cutting measures, that doyen of Canadian publishing houses, McClelland & Stewart, recently decided to liquidate vast stocks of books taking up space in its warehouses. A total of 179 titles (representing 69 writers, many of them Canada's best) were to be victims of a mass remaindering.

When the Writers' Union of Canada and the League of Canadian Poets found out about McClelland & Stewart's plans, they called an emergency meeting and came up with a plan of their own: prevent the premature death of these books by donating 10 copies of each title to the library at University College. In that way, said June Callwood, president of the Writers' Union, "the collection will be accessible to as many readers as possible and will be held together as an archive".

UC principal Peter Richardson happily agreed to accept the donation, noting that it would benefit the college as well as the writers since it would mean more contact between UC's Canadian studies programs and Canadian literature. Callwood called the action "the great CanLit rescue of our time".

At a formal ceremony to mark the donation, to which a representative from McClelland & Stewart bravely came, (Richardson stressed that UC was sympathetic to the cutbacks at M&S and that the event was not directed at them) UC English professor Frank Watt remarked that the occasion was something between a celebration and a wake.

By receiving the donation Richardson hopes that UC will give some visibility to the conditions of the Canadian publishing industry and the needs of Canadian writers.

Callwood has indicated that the collection may be added to as other books become available through remaindering; Richardson says it's possible that other publishing companies or individual authors may wish to add to the holdings, with a view to the collection becoming a kind of Canadian literature "archive".

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PhD Orals

Since it is sometimes necessary to change the date or time of an oral examination, please confirm the information given in these listings with the PhD oral office, telephone 978-5258.

Friday, March 14
Teresa Ann Tomory, Department of History of Art, "Byzantine Ceramics in Asia Minor." Prof. E. Alföldi. Room 307, 63 St. George St., 2 p.m.

Norman Giesbrecht, Department of Sociology, "Changes in the Drinking Patterns of Skid Row Alcoholics." Prof. P.J. Giffen. Room 111, 63 St. George St., 2 p.m.

Patrick Kelly, Department of English, "The Way of the Labyrinth: Mystery and Detection in the Novels of Charles Dickens." Prof. J. Macpherson. Room 201, 65 St. George St., 3 p.m.

John Howard Booth, Department of Zoology, "The Distribution of Blood Flow in the Gills of the Rainbow Trout (*Salmo Gairdneri*)." Prof. G.F. Holeton. Room 309, 63 St. George St., 3 p.m.

Monday, March 17
Rachel Weinstock, Department of Educational Theory, "A Functional Study of Discourse Structure in Conversational English." Prof. P. Allen. Room 111, 63 St. George St., 9.30 a.m.

Tuesday, March 18
Norman Wilson Park, Department of Psychology, "Superadditivity of Retrieval Cues as a Function of Encoding Conditions." Prof. E. Tulving. Room 307, 63 St. George St., 2 p.m.

Friday, March 21
Christopher J. May, Department of Chemistry, "Investigation into the Solution Structure and Chemical Reactivity of *Endo*-Alkoxycyclobutenyl Palladium (II) Complexes." Prof. J. Powell. Room 307, 63 St. George St., 10 a.m.

Michael John Paul O'Donnell, Department of Zoology, "Water Vapour Absorption by the Desert Burrowing Cockroach, *Arenivaga Investigata* (Dictyoptera: Polyphagidae)." Prof. J. Machin. Room 111, 63 St. George St., 10 a.m.

Daniel Racette, Department of Political Economy, "Monetary Aspects of the Interwar Period in Canada and the U.S.: An Econometric Model." Prof. J.L. Carr. Room 111, 63 St. George St., 2 p.m.

Nehemia Friedman, Department of Electrical Engineering, "Injection-Coupled Synchronous Logic." Prof. C.A.T. Salama. Room 309, 63 St. George St., 2. p.m.

Tuesday, March 25
Steven M. Melemis, Department of Zoology, "Numerical Methods for Stochastic Processes and Contributions to the Theories of Territoriality and Life History Strategies." Profs. J.B. Falls and J.E. Paloheimo. Room 307, 63 St. George St., 2 p.m.

Wednesday, March 26
Eric William Ricker, Department of Educational Theory, "Ontario Provincial Politics and Educational Policy Making: The Role of Interest Groups in the Post-War Period." Prof. C. Beck. Room 111, 63 St. George St., 2 p.m.

Thursday, March 27
Robert Findlay MacKay, Department of Electrical Engineering, "Low-Sensitivity State-Space Active Filters." Prof. A.S. Sedra. Room 309, 63 St. George St., 2.30 p.m.

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COU academic colleague

Professor Thomas Langan, Department of Philosophy and St. Michael's College, has been appointed Council of Ontario Universities alternate academic colleague until June 30, 1980.

Research News

NSERC Strategic Grants
The Natural Sciences & Engineering Research Council (NSERC) has two types of strategic grants competitions this year: a new open competition and the regular defined field competition. The new open competition is for support of research projects in areas of national concern that lie outside those identified for support under the strategic grants program. Proposals for the open competition must go through an internal university review process; ultimately the U of T may submit up to six proposals to NSERC for final consideration.

In order to meet the internal review required by the council, interested individuals are requested to submit brief (up to five pages) outlines of their proposals by *March 14* to the Research Board, in care of the Office of Research Administration. A preliminary review of the outlines will be carried out by a cross-discipline panel which will select approximately six proposals for further development. Proposals not selected at this stage may, of course, be developed and submitted to the panel for final consideration in April. For further information and applications material, telephone ORA at 978-2163.

The deadline date for submission of applications to the defined field strategic grants competition is *May 1*. The identified areas of national concern are communications, energy, environmental toxicology, food/agriculture, and oceans. Those researchers who wish to submit applications for major research projects, i.e., in excess of $100,000 per year, are urged to consult NSERC prior to submission of the application.

For further information and application forms, telephone ORA at 978-2163.

NSERC Scientific Exchange Program
NSERC maintains exchange programs with the USSR, France, Brazil, Czechoslovakia and Japan. Under these programs, arrangements are made to send Canadian scientists on short-term and long-term visits to each of the above countries and to receive scientists from those countries for similar visits in Canada. Financial arrangements vary from program to program but generally include the provision of a living allowance by the host country; this allowance must not be expected to cover all related expenses however. Scientists participating in exchange programs must be Canadian citizens, resident in Canada, working in one of the fields of science and engineering supported by NSERC.

The deadline date for applications at the agency is *March 15*. For further information, telephone ORA at 978-2163.

Ontario Ministry of Agriculture & Food Research Awards (Provincial Lottery Program)
Grants are available for research and development in Ontario in the following program areas:
(1) integrated pest management systems for horticultural and field crops;
(2) quality and safety of Ontario food (both animal and plant products);
(3) feasibility of expanding the range and selection of Ontario produced food products. No project will be funded for more than three years.

The agency has indicated only that the deadline date for submission is toward the end of *March*. For further information and application material, telephone ORA at 978-2163.

Proposed Institute of Toxicology
A special meeting of the Research Board has been called for Thursday, March 13, at 2.30 p.m. to discuss the revised proposal for the Canadian Institute of Toxicology. All interested members of the University community are invited to attend. The meeting will be held in the Council Chamber, Simcoe Hall.

Committee Highlights

The Campus & Community Affairs Committee, at its meeting Feb. 19:
• re-affirmed its recommendation for approval of the application for incorporation of Varsity Publications. The Executive Committee had referred the recommendation back to Campus & Community Affairs for further consideration, concerned about the objects of the corporation. Of particular concern was the article allowing the corporation to print, publish and sell items other than newspapers. Professor W.E. Alexander, vice-president — campus & community affairs, told the C&CA Committee that the objects of a corporation are normally stated in broad terms to provide sufficient long-term flexibility and that this article would allow the corporation to continue to publish material for the Students' Administrative Council such as the student handbook.
• received the report of the Department of Athletics & Recreation on needed renovations to Varsity Arena. The renovations are necessary in order to undertake mandatory fire and safety improvements; lower operating costs of the ice plant; and create a more attractive facility for a variety of rental purposes, particularly in spring and summer. The projected cost of the renovation is $1.1 million. The department says a fundraising campaign with a target of $450,000 is needed to eliminate "at least the necessity of cutbacks in student programs which might otherwise be required to partly finance the renovations". The department also wants the University to assume the $200,000 cost of the required fire and safety renovations.

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Reservations not necessary for groups of 5 or less

Hours: 12 noon - 2 p.m.

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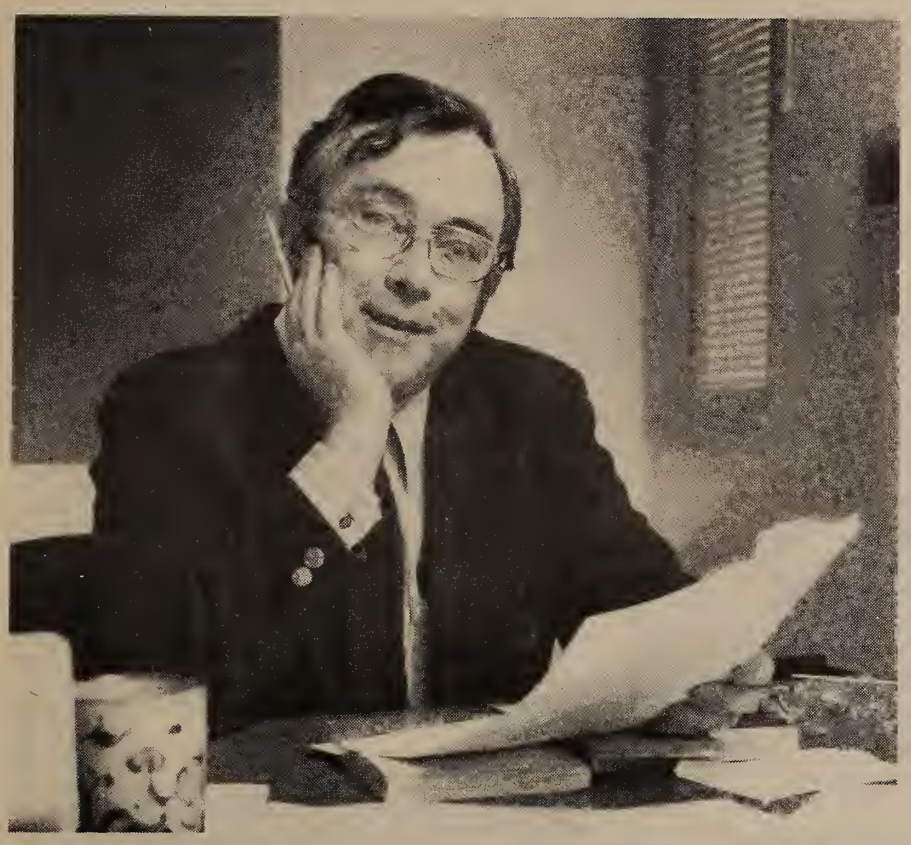
Skvorecky honoured by University of Oklahoma



Erindale English professor and novelist Josef Skvorecky has been selected the 1980 laureate for the $10,000 Neustadt International Prize for Literature, awarded by the University of Oklahoma. A jury of contemporary writers and critics from 10 different countries selected Professor Skvorecky from a slate of 10 international writers after almost two days of closed sessions at Oklahoma's Norman campus.

Prof. Skvorecky, who left his homeland of Czechoslovakia in 1969 to take refuge in Canada, is the author of novels and short stories, and is founder and editor-in-chief for 68 Publishers, an émigré publishing company in Toronto which publishes works of Czech authors who cannot be published in Europe.

"In a country that has not had any democracy for over 40 years now, books like those of Josef Skvorecky have become forbidden fruit on the one hand and a hope for dignity and freedom on the other," said Arnold Lustig, himself a prominent novelist from Czechoslovakia, who nominated Skvorecky. "Taken together, his works constitute a highly artistic presentation of recent Czech history as the common intelligent people saw and felt it."

The Neustadt prize was created in 1969 and first awarded in 1970. The biennial award is made for distinguished and continuous artistic achievements in the fields of poetry, drama or fiction. Writers in all languages are eligible.

GAA and University settle

A two-year settlement between the University and the Graduate Assistants' Association (GAA), Local 2, was tentatively reached Feb. 27 after two days of mediation talks. A GAA membership vote was held Friday to determine final ratification.

The contract provides for an 8.5 percent wage increase (up from a previous offer of seven percent), retroactive to Sept. 1, 1979, and a five percent increase, effective Sept. 1, 1980. Also effective this September will be an increase in the standard teaching assistant (TA) appointment from 270 to 280 hours per session.

The GAA had asked for standard appointments to be 300 hours per session, with wage increases of 10 percent (at the PhD level), 17 percent (MA), and 24 percent (BA) in the first year of the contract, followed by an across-the-board increase of 11 percent in the second year.

From the outset of negotiations, the University offered to revise union security from voluntary contribution of union dues to full Rand formula, which provides for payroll deduction of 1.1 percent of each TA's monthly earnings, whether or not they choose to belong to the GAA. Membership in the union at U of T numbers about 1,750 while about 150 TAs have opted not to join. Increased GAA revenue from non-members' fees could amount to a maximum of $6,000 a year.

During mediation talks, the University agreed to the GAA demand that all TAs be provided with detailed job descriptions, listing specific duties and times allotted for each duty. Guidelines for job descriptions will be drawn up by a committee, appointed by the administration and consisting primarily of departmental chairmen from the three campuses, as well as one GAA representative.

Among the GAA demands not met by the University were OHIP coverage, a tuition waiver, one month paid sick leave, six weeks paid maternity leave, individual mailboxes, office space and phones.

As of the December payroll, there were 190 undergraduate TA positions for which the rate of pay was $9.25 an hour, 651 MA-level positions at $11.02 an hour, 1,221 PhD-level and 30 post-doctoral-level positions at $12.67 an hour.

Hourly rates for undergraduate TAs are $10.04, retroactive to last September and going up to $10.54 this September; for MA-level TAs, $11.96, going up to $12.56; and for PhD-level and post-doctoral TAs, $13.75, going up to $14.44.

Representing the union in the negotiations were GAA president Brian Robinson, chief steward Christine Brown, business agent Jean Greatbatch, Robert Shenton, Allen Hanen, and Stephanie Holbik. Acting on behalf of the University were labour relations manager John Parker, Assistant Dean E.A. McCulloch of the School of Graduate Studies, and Margaret A. Bromley.

Is the universe left-handed?

Physicists use new laser technique to try and prove that it is

by Pamela Cornell

Using linear and ring lasers, two U of T physics professors are experimenting with a new technique that could bring about unprecedented precision in navigational aids, petroleum prospecting equipment, and instruments for measuring optics.

But the practical applications are not foremost in the minds of molecular physicist David May and elementary particle theorist Nathan Isgur. Their purpose is to examine the behaviour of matter at a very fundamental level and this experimental technique will allow them to explore questions about the structure of the universe and the nature of time.

More specifically, they want to demonstrate that the universe is left-handed.

Until the mid-50s, physicists were convinced the laws of the universe played no favourites between left and right. The notion of left or right "handedness" was considered merely a human convention, not applicable to the physical world where, for example, anything capable of spinning to the left would be equally capable of spinning to the right. That concept was known as parity.

Then along came experimental evidence that certain physical processes in the universe *do* distinguish between left and right. For instance, the elementary particles known as neutrinos spin only to the left; and no matter what forces are brought to bear, they can't be made to go to the right.

The conceptual explanation of this asymmetry in nature, known as "the violation of parity", won its authors the Nobel prize for physics in 1956. Since then, attempts to provide fundamental explanations of parity violation have been made time and time again. Finally, in 1979, the Nobel prize was shared by three physicists for their "theory of weak and electromagnetic interaction".

There are four classes of interaction: gravitational, electromagnetic, nuclear (strong), and weak. The assumption of left/right parity was based on observation of the first three kinds of interaction. However, a left-handed bias is demonstrated only in very weak interactions. Neutrinos, in particular, interact so weakly with other material that they can penetrate anything.

Professors May and Isgur hope their laser experiment will test some of the implications of the theory of weak and electromagnetic interaction.

Since September, they've been working on their prototype, a linear laser in which two beams of light are shot back and forth. One beam has been given a left circular polarization, the other a right circular polarization.

If there were left/right symmetry, both beams would travel at the same speed. But while the wave lengths are the same, the left-polarized beam is expected to travel slightly faster than the right one. One manifestation is that when photons (light waves) go through material, their plane of polarization would naturally rotate very slightly to the left.

The angle of rotation, however, would only amount to about a millionth of a degree — extremely difficult to measure by visual means. So May and Isgur have devised a way of transforming optical properties into sound frequencies, which can be measured *a million times* more accurately.

Since the beams travel at different speeds, their frequencies are different. The difference, known as "the beat frequency", can be heard as a wowing sound on headphones and the number of cycles per second (hertz) can be measured.

May estimates that an angle of rotation measuring a millionth of a degree would register at 200 hertz, about A below middle C on the piano. (The average human ear can hear down to about 20 and up to about 20,000 hertz.)

Other researchers have worked on lasers with special polarization modes, says May, but not in this way. He hopes his technique could be used, for example, to enhance greatly the accuracy of the Cavendish experiment.

According to Newton's law of universal gravitation, every particle of matter attracts every other particle with a force proportional to the product of the masses and to the inverse square of the distance. In the 18th century, Henry Cavendish developed an experimental method to measure the universal constant of gravitation.

The method uses a torsion balance to which are fastened two metal spheres. The controlled presence of other large masses causes the balance to deflect. The degree to which the torsion balance is deflected is called the Cavendish torque and is now measurable only to four digits. May and Isgur are aiming at nine digits.

The next stage in their procedure will be to build the ring laser, which alone requires $20,000 worth of crystal optics, perfectly polished and anti-reflection coated. With the assistance of graduate student Pierre Gagnon, they hope to complete the ring laser by early summer. They've applied for a $61,000 Connaught Fund grant to finance the subsequent tests, which will probably take at least a year.

"Our scheme looks great on paper," says May, "but it could bomb right out. After all, to improve what's been done for the past 300 years by a factor of 10 would be phenomenal — by a factor of a million is almost too much to hope for."

MASSEY COLLEGE
IN THE UNIVERSITY OF TORONTO

The present Master, Professor Robertson Davies, C.C., D.Litt., has declared his intention to retire at the end of June, 1981, and the College proposes to pre-elect a new Master, who must be a scholar, distinguished in his or her field. The College is an academic community of 20 Senior Fellows and 80 graduate students (Junior Fellows), who are elected on the basis of merit and belong to all disciplines.

A Search Committee has been appointed by the Senior Fellows of the College, who comprise the Governing Body. Suggestions or representations should be sent by 1 May 1980 to the Secretary of the Search Committee, Professor Desmond Neill, Massey College, 4 Devonshire Place, Toronto, Ontario, Canada, M5S 2E1.

The John E. Langdon collection on silver

has been donated to the Thomas Fisher Rare Book Library

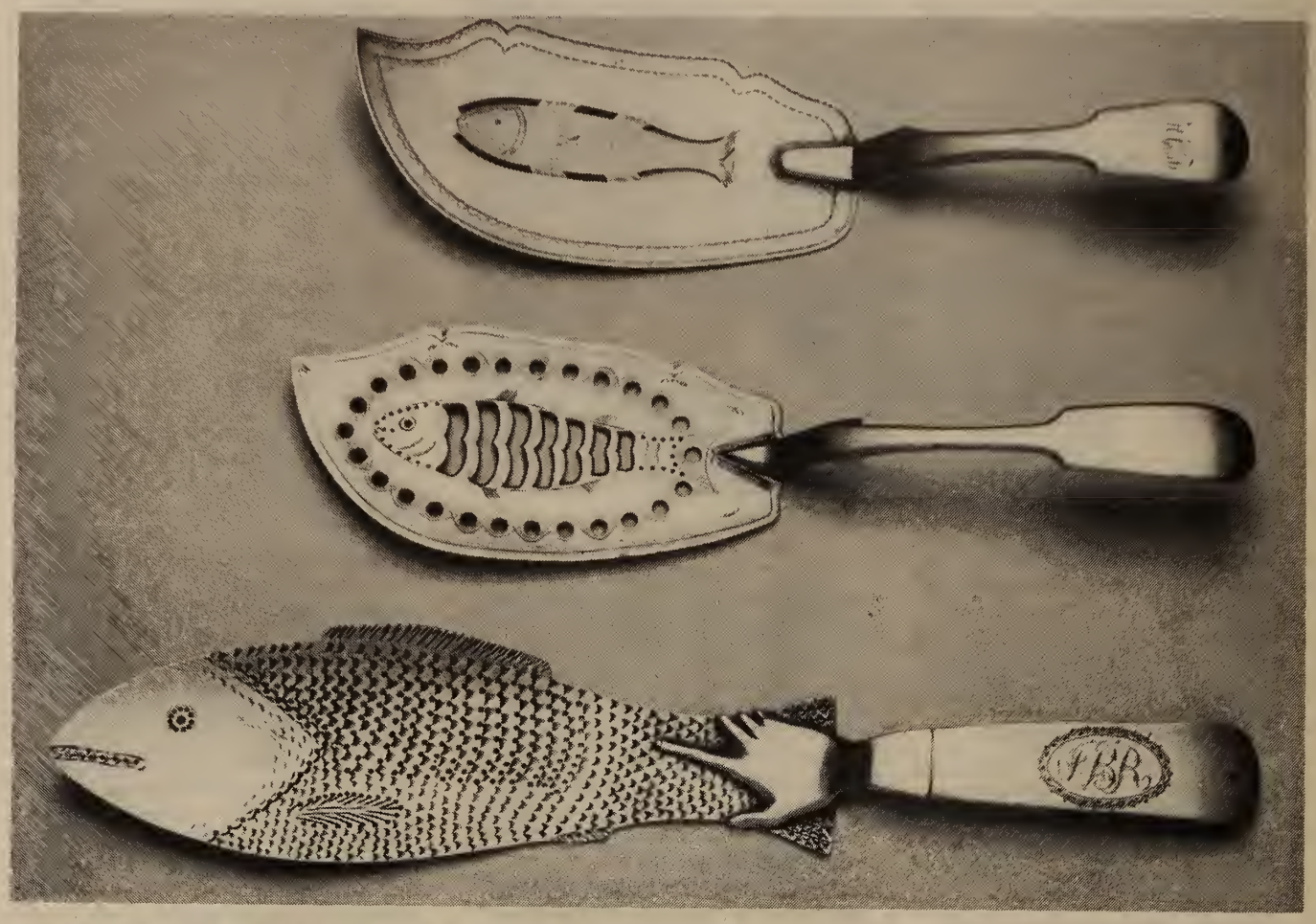
A collection described as "the finest library, public or private, of books on silver" has been presented to the Thomas Fisher Rare Book Library. The collection, belonging to John Emerson Langdon of Toronto, includes close to 1,000 books and pamphlets, and several hundred colour slides and black and white photographs of individual pieces.

Langdon has written four books on Canadian silver: *Canadian Silversmiths and Their Marks 1667-1867, Canadian Silversmiths 1700-1900, American Silversmiths in British North America* and *Guides to Marks on Early Canadian Silver,* and the collection contains the manuscripts, galleys and correspondence relating to their publication.

Langdon, editor of the Eastern Canada section of the Financial Post from 1928 to 1945 and a vice-president of McLeod, Young and Weir until his retirement in 1967, became interested in Canadian silver in the 1930s. It was during this time that he noticed that a hallmark attributed to a Channel Islands silversmith had been used extensively in Canada. This led him to do research on the subject and eventually he became a leading authority in this field. The collection, however, is not restricted to Canadian material. Langdon has gathered the most authoritative books on silver and the area covered ranges from Scandinavia to South Africa and around the globe. Many of the books were published in limited editions, quickly went out of print and are eagerly sought by collectors today. Since Langdon is a recognized authority, many of the items are presentation copies from their authors; and some have an additional interest for the scholar, where Langdon has added comments and corrections to the texts. In addition to the books, there are a large number of articles extracted from journals of the 1920s, 30s and 40s as well as catalogues of important silver sales, guides to museum and gallery exhibitions, and conference reports, many bearing Langdon's annotations.

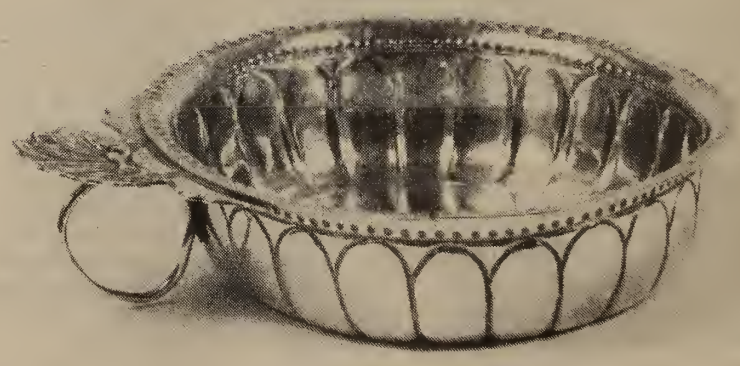
Langdon has also provided the library with an additional gift — he has established a fund for the purchase of future publications and important retrospective items as they become available. This is not the first time an institution has benefited from the Langdons' generosity; their gifts to the Canadiana Gallery of the Royal Ontario Museum are well known, and other donations have been made in the past to the National Museum of Man in Ottawa, the Nova Scotia Provincial Museum and Black Creek Pioneer Village.

The John E. Langdon Collection on Silver is available, as are all the collections in the Fisher Rare Book Library, to serious researchers. More information may be obtained by writing the library, or by calling 978-5285.



Some samples of early Canadian silver objects. Pierre Huguet of Montreal (1749-1817) made these serving pieces chiefly to trade with the Indians for pelts

François Ranvoyze of Quebec City (1739-1819) was the maker of large quantities of church silver



Another example of Ranvoyze's artistry

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Report of the Provost's Task Force on the Life Sciences

The Ontario Council of Graduate Studies (OCGS) and its Advisory Committee on Academic Planning (ACAP) have been considering for some considerable time how to conduct a disciplinary review of graduate programs in biology and the life sciences. In 1978 OCGS re-affirmed its decision to conduct a review of the life sciences.

Division IV, while not having the largest number of graduate students among the four divisions of the School of Graduate Studies, does involve the major contribution of this university to research in the health sciences, and is responsible for the greater part of the external research support coming to the University. With tight fiscal restraint at the provincial level, a challenge that the University must face is how to stimulate new centres of strength in research and foci of research activity in new fields without new appointments and depending on existing faculty members.

Preliminary discussions by the President on the proposed ACAP assessment suggested that an internal study of existing resources in the life sciences would be both a pre-requisite to conducting the ACAP review and also give information of existing areas of strength in both research and graduate training within the life sciences.

At President Ham's request, I appointed a Task Force on the Life Sciences, under the chairmanship of Professor D.F. Mettrick, who is a member of ACAP, to conduct such an inventory and advise on a mechanism by which the review of the life sciences might be facilitated. The committee's preliminary report was submitted early in November in order that it might be considered by ACAP. The final report, covering 87 percent of the faculty involved including those away on study leave, was submitted in January 1980.

I have forwarded this report to Dean J.F. Leyerle and the Council of SGS and hope that it may serve to initiate discussions among departments and the SGS on new or strengthened graduate programs based on the areas of research strength identified in the report. The proposed new Institute of Toxicology is an example of how, from existing resources, this University can meet the challenges and needs of new programs, particularly those of an interdisciplinary nature. I hope that others also will emerge.

I should like to congratulate the Task Force on an extremely well-documented, detailed study of the life sciences and to express my sincere appreciation for the work involved. I am particularly pleased to learn that the report significantly influenced ACAP's approach to the Life Sciences Assessment, which will now follow the alternative approach proposed by the Task Force.

D.A. Chant
Vice-President and Provost

SUMMARY

Following informal discussion on the progress of the proposed Advisory Committee on Academic Planning (ACAP) assessment of the Life Sciences, the Provost, in July 1979, appointed a Task Force to conduct an inventory of the Life Sciences in the University of Toronto, and to propose and define a process by which an ACAP review of the Life Sciences might be conducted.

While at the time of submission of this Report not all of the 536 professorial staff appointed to the graduate faculty through the Life Sciences Division (Division IV) of the School of Graduate Studies had responded, the major trends and problems in conducting an ACAP assessment may be clearly identified.

From the inventory it was shown that approximately half of the graduate professoriate have interests covering two or even three departments in Division IV. Secondly, that research and graduate work is concentrated in the following areas:- biochemistry, physiology, neuroscience, ecology, molecular biology, genetics, metabolism, systematics, evolution, immunology, pharmacology, endocrinology, enzymology, biophysics, pathology. A further 27 broad areas of research and graduate work were identified.

The Task Force does not believe that the model chosen by ACAP on which to base their assessment process, i.e. Cell, Organismal and Population Biology, is appropriate to this, or any other university having professional schools of agriculture, dentistry, medicine, nursing, pharmacy, veterinary medicine, etc.

An alternative approach is proposed on the basis of
a Basic and applied biology;
b Basic medical/dental sciences;
c Applied medical/dental and clinical sciences;
d Medical and paramedical professions.

Introduction (1)

Late in May 1978, the Advisory Committee on Academic Planning met with representatives from the universities of Ontario and with four advisory consultants to discuss the problems, and their possible solutions, associated with the development of planning assessments of graduate studies in the Life Sciences.

The representatives, consultants and members of ACAP recognized that the Life Sciences embrace a wide range of discipline departments associated with graduate work. They were persuaded that an assessment limited only to departments of biology, botany and zoology, would be meaningless in terms of the province-wide assessments normally associated with discipline review, because it would exclude those departments grouped with the Life Sciences, but administratively and academically placed in faculties of dentistry, medicine, pharmacy, nursing, physical and health education, etc. It was therefore agreed that the ACAP assessment should be broadened to include all those departments which are to be covered by the general term "Life Sciences".

The Advisory Committee on Academic Planning, after reviewing the various options open to it in conducting such a broad assessment, sought ways in which individual members of the various departments involved might be grouped into three or four larger classifications. The three disciplinary divisions selected were *cell science*, covering those involved at the cellular or sub-cellular level of organization; *organismal biology*, covering those involved at the tissue, organ or system level of plants and animals and; *population biology*, covering those involved in studies at the level of populations.

The University of Toronto was aware that such a review, divided into the above disciplinary divisions, might pose particular organizational and conceptual difficulties. The Provost therefore established a Task Force with the following terms of reference:-

1 To conduct an inventory of the Life Sciences in the University of Toronto.
2 To propose an organization of the Life Sciences which will facilitate the assessment by the Advisory Committee on Academic Planning.
3 To define a process by which the ACAP review may be carried out.

While it was not the responsibility of the Task Force, both the President and Provost were well aware that the organization which the Task Force proposed was likely to facilitate new configurations in the organization of graduate programs in the Life Sciences, as presently conducted within Division IV of the School of Graduate Studies. Further, that it might facilitate procedures for self-evaluation of the quality of graduate programs in the Life Sciences.

Inventory of the Life Sciences at the University of Toronto (2)

There are 31 faculties, schools and departments, directly or indirectly associated with the Life Sciences in which graduate activities are organized through Division IV of the School of Graduate Studies. Associated with these units within Division IV are 536 professorial staff appointed to the graduate faculty.

The Task Force developed a questionnaire, which was distributed to all members of the graduate faculty with extra copies to the graduate chairman of each unit so that all those individuals involved with a graduate program as teacher, supervisor or resource person would receive a questionnaire and be included in the inventory.

The questionnaire was designed to solicit information on the research interests of respondents, departmental affiliations, involvement in graduate work, and the interests of the graduate students. The data was computer processed to facilitate generating information in a number of different formats, so that various organizational models could be compared.

A total of 468 responses were received from the 536 distributed to members of the graduate faculty of Division IV. This represents 87 percent of the total. It is assumed that the remaining non-accountable 13 percent would not significantly alter the trends and patterns discussed during the analyses.

The first question asked was the departmental affiliation of the graduate professors. A total of 253 (54 percent) gave only one departmental affiliation, 138 (29 percent) had one cross-appointment, 72 (15 percent) were doubly cross-appointed, and five (one percent) were triply cross-appointed. Overall, nearly half of the graduate professoriate had at least one cross-appointment, confirming the original ACAP assumption that in the Life Sciences departmental disciplinary boundaries do not reflect the research boundaries, and hence graduate involvement, of the professors involved.

Table I gives the counts for each affiliation by perceived priority, i.e. first, second or third. Thus for biochemistry 35 faculty gave it as their first priority, 12 as their second and

Table I
Departmental Affiliations

Department	Priority 1	2	3	Total
Anatomy	14	4	1	19
Biochemistry	35	12	6	53
Botany	25	3	1	29
Clinical Biochemistry	12	5	1	18
Community Health	21	4	2	27
Dentistry	26	5	2	33
Forestry	10	5	3	18
Immunology	4	17	1	22
Medical Biophysics	33	9	1	43
Medical Science	39	34	20	93
Microbiology, Parasitology	12	7	2	21
Nursing	11	0	1	12
Nutrition, Food Science	7	0	0	7
Pathology	10	5	1	16
Pharmacology	16	9	4	29
Pharmacy	13	0	1	14
Physiology	14	14	2	30
Psychology	20	3	1	24
Speech Pathology	6	3	1	10
Zoology	58	14	2	74
Anthropology	9	2	0	11
Biomedical Engineering	9	4	6	19
Chemical Engineering, Applied Chemistry	3	0	2	5
Computer Science	1	0	0	1
Environmental Studies	2	22	5	29
Geography	1	1	1	3
Geology	4	1	1	6
History, Philosophy of Science, Technology	1	3	0	4
School of Physical, Health Education	2	1	0	3
Statistics	2	1	1	4
Surgery	10	1	0	11

six as their third for a total of 53 individuals.

As would be expected the largest number of cross-appointments were to the Institute of Environmental Studies, the Institute of Immunology, the Institute of Medical Science and the Institute of Biomedical Engineering. Among the departments, Physiology, Microbiology and Parasitology, and Biochemistry also had a large number of cross-affiliations.

Respondents were asked to give their primary and secondary research interests, choosing from the four options, i.e. Cell Biology, Animal Biology, Plant Biology and Population Biology.

Table II

Number of Respondents giving Primary and Secondary Interests

Primary Interests	Number of Secondary Interests		
	None	One	Two
One	174	189	11
Two	70	23	2

One hundred and seventy-four gave a single research interest; 70 gave two primary areas of research. As in Table I, the number of respondents with either two principal research fields extending over the four disciplinary divisions, or secondary interests similarly extending into another discipline area, attests to the breadth of research activity among individual professors.

The following two tables give primary research interests ranked against other primary research interests (Table III), and primary research interests ranked against secondary research interests (Table IV). In both tables the position of ranking within an interest level was not considered, so that "Cell Biology" and "Animal Biology" as areas of equal primary interest was treated as equivalent to giving "Animal Biology" and "Cell Biology". Table III is therefore an upper triangular matrix and the "Total" column shows all professors who ranked an area as a primary research interest in either position. Totals are the sum of the appropriate column *and* row.

In order of ranking Animal Biology has the highest number of professors, followed by Cell Biology and Population Biology. Plant Biology drew fewer researchers.

In Table IV, as respondents could indicate more than one secondary interest, and thus appear more than once in the table, row totals have not been included as the figures would not be meaningful.

Table III

Primary Interests vs Other Primary Interests

First Primary Interest	Other Primary Interest			No Second Interest	Total
	Animal Bio	Plant Bio	Pop Bio		
Cell Bio	52	9	8	120	189
Animal Bio		3	17	127	199
Plant Bio			1	10	23
Pop Bio				72	98

Table IV

Primary Interests vs Secondary Interests

Primary Interest	Secondary Interests				No Secondary Interest
	Cell Bio	Animal Bio	Plant Bio	Pop Bio	
Cell Bio		68	5	26	39
Animal Bio	51		3	37	55
Plant Bio	3	1		8	1
Pop Bio	12	20	6		42

In Table IV the strongest interactions are between Cell and Animal Biology when either are the designated area of primary research. Animal Biology as a primary area, with Population Biology as the secondary field, also ranked high, as did Cell Biology at the primary level and Population Biology at the secondary level. The fifth ranking association was between Population Biology at the primary and Animal Biology at the secondary level.

Respondents were also asked to give their tertiary research interests in order of ranking up to six categories. The distribution of their responses is shown in Table V.

Table V

Distribution of Number of Tertiary Research Interests among Professors

Number of Interests	Number of Professors
0	14
1	43
2	80
3	101
4	80
5	56
6	90

Table V appears to have a bimodal distribution with a peak at three tertiary interests and a second peak at six tertiary interests. The likely explanation of the second peak is that the tail of the distribution of tertiary interests might well have extended to 10 or 12, rather than the six actually requested. The major and true peak in the number of tertiary interests is in the range 2–4. The above explanation is further supported by the fact that four professors did insert a seventh tertiary research interest in their replies.

In the questionnaire, 37 fields of research were named in the tertiary classification. In the responses received, an additional 36 fields were named. Of these only five were listed by four or more professors. These five are included in Table VI to give a total of 42 fields of tertiary research. Details of the remaining 31 fields are on file; 21 had only a single respondent and the remaining 10 had only two respondents.

In Table VI there are three rows for each of the 42 tertiary fields of research. The first line for each field gives the ranking by each professor which was summarized in Table V. The second line gives the responses for the graduate students and the third line is the sum of these two. The right hand total column shows the total for each row regardless of ranking.

Except for kinesiology, biomaterials, oncology and preventive medicine, there are graduate students involved in all of the remaining 38 tertiary fields.

An arbitrary sub-set of Table VI is shown in Table VII, in which only those having a total of 50 or more professors and graduate students are listed.

Table VI

Areas of Research

Area	Rank						Total
	1	2	3	4	5	6	
Algalogy	3	2	4	1	0	1	11
	6	0	0	0	0	0	6
	9	2	4	1	0	1	17
Anatomy	7	9	6	5	2	2	31
	19	0	1	0	0	0	20
	26	9	7	5	2	2	51
Anthropology	8	4	0	1	0	1	14
	11	1	0	0	0	0	12
	19	5	0	1	0	1	26
Bacteriology	6	2	2	3	2	2	17
	12	0	2	0	0	0	14
	18	2	4	3	2	2	31
Biochemistry	49	28	39	19	6	2	143
	37	6	1	1	0	0	45
	86	34	40	20	6	2	188
Biophysics	12	18	12	7	3	1	53
	13	4	1	0	1	0	19
	25	22	13	7	4	1	72
Ecology	17	19	13	8	6	3	66
	54	3	1	0	0	0	58
	71	22	14	8	6	3	124
Endocrinology	18	8	7	6	9	4	52
	14	3	0	0	0	0	17
	32	11	7	6	9	4	69
Engineering	6	4	2	3	3	1	19
	16	2	0	0	0	0	18
	22	6	2	3	3	1	37
Enzymology	5	15	9	11	5	4	49
	9	4	0	0	0	0	13
	14	19	9	11	5	4	62
Ethology	2	4	3	7	2	1	19
	9	4	0	0	0	0	13
	11	8	3	7	2	1	32
Evolution	8	12	13	11	10	4	58
	9	7	6	1	0	0	23
	17	19	19	12	10	4	81
Fisheries	2	1	6	1	1	2	13
	8	0	3	0	0	0	11
	10	1	9	1	1	2	24
Genetics	23	17	22	15	9	2	88
	23	0	2	0	0	0	25
	46	17	24	15	9	2	113
Geology	0	3	3	2	3	1	12
	3	0	0	0	0	0	3
	3	3	3	2	3	1	15
Histology	7	7	7	6	4	2	33
	13	0	0	0	0	0	13
	20	7	7	6	4	2	46
Immunology	20	17	6	7	3	3	56
	20	3	1	0	0	0	24
	40	20	7	7	3	3	80
Kinesiology	2	2	1	0	0	4	9
	0	0	0	0	0	0	0
	2	2	1	0	0	4	9
Limnology	5	2	2	4	2	2	17
	5	0	0	1	0	0	6
	10	2	2	5	2	2	23
Metabolism	11	16	17	11	13	4	72
	11	1	2	0	0	0	14
	22	17	19	11	13	4	86
Microbiology	2	4	5	3	6	1	21
	2	0	0	0	0	0	2
	4	4	5	3	6	1	23
Molecular Biology	14	32	16	12	8	2	84
	26	3	1	3	0	0	33
	40	35	17	15	8	2	117
Neuroscience	32	19	10	6	2	0	69
	57	4	1	0	0	0	62
	89	23	11	6	2	0	131
Nutrition	6	9	8	7	4	3	37
	4	2	1	0	0	0	7
	10	11	9	7	4	3	44
Paleobotany	2	1	1	2	1	1	8
	0	2	0	0	0	0	2
	2	3	1	2	1	1	10
Paleozoology	4	3	1	1	0	1	10
	3	4	2	0	0	0	9
	7	7	3	1	0	1	19

Table VI (*continued*)
Areas of Research

Area	Rank 1	2	3	4	5	6	Total
Parasitology	3	1	2	2	1	1	10
	4	0	0	1	0	0	5
	7	1	2	3	1	1	15
Pathology	13	8	11	3	4	5	44
	11	3	0	0	0	0	14
	24	11	11	3	4	5	58
Pharmacology	16	13	15	12	4	4	64
	8	5	0	2	0	0	15
	24	18	15	14	4	4	79
Physiology	26	40	25	14	5	11	121
	28	8	5	0	0	0	41
	54	48	30	14	5	11	162
Reproduction	4	3	8	3	2	2	22
	10	1	0	0	0	0	11
	14	4	8	3	2	2	33
Socio-biology	6	10	8	3	4	3	34
	9	5	2	3	0	0	19
	15	15	10	6	4	3	53
Statistics	5	11	6	3	8	3	36
	14	0	4	0	0	0	18
	19	11	10	3	8	3	54
Surgery	8	5	1	1	0	0	15
	5	1	0	0	0	0	6
	13	6	1	1	0	0	21
Taxonomy, Systematics	9	8	8	6	7	1	39
	7	7	0	1	0	0	15
	16	15	8	7	7	1	54
Toxicology	7	7	5	5	3	5	32
	6	0	2	0	0	0	8
	13	7	7	5	3	5	40
Virology	5	2	5	5	1	1	19
	6	0	1	0	0	0	7
	11	2	6	5	1	1	26
Biomaterials	2	2	0	0	0	0	4
	0	0	0	0	0	0	0
	2	2	0	0	0	0	4
Epidemiology	9	5	0	0	0	0	14
	3	0	0	0	0	0	3
	12	5	0	0	0	0	17
Health Care Eval.	2	2	1	0	0	0	5
	1	0	0	0	0	0	1
	3	2	1	0	0	0	6
Oncology	1	3	0	0	0	0	4
	0	0	0	0	0	0	0
	1	3	0	0	0	0	4
Preventive Medicine	2	0	4	0	0	0	6
	0	0	0	0	0	0	0
	2	0	4	0	0	0	6

Table VII
Areas of Tertiary Research involving 50 or more professors and graduate students
a includes all respondents, irrespective of ranking for their interest.
b includes only those faculty and students listed in the first column of Table VI.

Area		Faculty	Students	Total	Faculty:Student ratio
Anatomy	a	31	20	51	1.5:1
	b	7	19	26	0.3:1
Biochemistry	a	143	45	188	3:1
	b	49	37	86	1.4:1
Biophysics	a	53	19	72	2.8:1
	b	12	13	25	1:1
Ecology	a	66	58	124	1:1
	b	17	54	71	0.3:1
Endocrinology	a	52	17	69	3:1
	b	18	14	32	1.3:1
Enzymology	a	49	13	62	3.7:1
	b	5	9	14	0.5:1
Evolution	a	58	23	81	2.5:1
	b	8	9	17	1:1
Genetics	a	88	25	113	3.5:1
	b	23	23	46	1:1
Immunology	a	56	24	80	2.3:1
	b	20	20	40	1:1
Metabolism	a	72	14	86	5:1
	b	11	11	22	1:1
Molecular Biology	a	84	33	117	2.5:1
	b	14	26	40	0.5:1
Neuroscience	a	69	62	131	1:1
	b	32	57	89	0.5:1
Pathology	a	44	14	58	3:1
	b	13	11	24	1:1
Pharmacology	a	64	15	79	4.3:1
	b	16	8	24	2:1
Physiology	a	121	41	162	3:1
	b	26	28	54	1:1
Socio-biology	a	34	19	53	1.8:1
	b	6	9	15	0.6:1
Statistics	a	36	18	54	2:1
	b	5	14	19	0.3:1
Taxonomy, Systematics	a	39	15	54	2.6:1
	b	9	7	16	1.2:1

In terms of overall interest in a research field, biochemistry, physiology and neuroscience are clear leaders. Of the 18 fields listed having more than 50 faculty and graduate students, 10 have no recognized identity in the School of Graduate Studies. The data suggest that graduate programs in areas such as, for example, neuroscience, molecular biology, and evolution, a broadening of current programs in environmental science to include ecology and an expansion of the medical genetics group, currently within the graduate programs of medical biophysics, to a genetics program in its own right, are worth consideration by the departments involved and the School of Graduate Studies.

Table VIII
Number of Professors Involved in Supervision for Different Degrees

Degree	Number of Professors
Ph.D.	361
M.Sc.	336
M.H.Sc.	36
M.Sc.F.	13
M.Sc.N.	11
M.Sc.Phm.	10

As the total is more than the number of graduate students reported, some respondents have replied who do not currently supervise graduate students or who are only members of a supervising committee.

The data in Table VIII is further expanded in Table IX to indicate the departmental affiliations of the graduate faculty supervising students for the six different degree programs.

Table IX
Degree Types by Department

Area	Degree Type Ph.D.	M.Sc.	M.H.Sc.	M.Sc.F.	M.Sc.N.	M.Sc.Phm.
Anatomy	14	16	1	0	0	0
Biochemistry	49	47	1	0	0	0
Botany	27	25	0	2	0	0
Clinical Biochemistry	16	16	0	0	0	0
Community Health	14	19	20	0	2	0
Dentistry	21	30	2	0	0	1
Forestry	15	10	0	8	0	0
Immunology	18	18	0	0	0	0
Medical Biophysics	40	35	0	0	0	0
Medical Science	72	64	5	1	0	0
Microbiology, Parasitology	20	20	0	0	0	0
Nursing	1	2	0	0	10	0
Nutrition, Food Science	4	7	4	0	0	0
Pathology	11	7	1	0	0	0
Pharmacology	25	24	1	0	0	0
Pharmacy	8	4	0	0	0	9
Physiology	27	24	0	0	0	0
Psychology	22	6	0	0	0	0
Speech Pathology	2	4	8	0	0	0
Zoology	64	59	0	3	0	0
Anthropology	10	5	0	0	0	0
Biomedical Engineering	17	14	0	3	0	0
Chem Eng, Applied Chem	4	5	0	0	0	0
Computer Science	0	1	0	1	0	0
Environmental Studies	24	24	2	4	0	0
Geography	2	2	0	0	0	0
Geology	6	4	0	0	0	0
Hist, Phil of Sci, Tech	2	2	0	0	0	1
Phys, Health Education	2	2	0	0	0	0
Statistics	4	4	1	0	0	0
Surgery	8	9	0	1	0	0

Doctor of philosophy and master of science degrees are currently being supervised by graduate faculty in the Life Sciences through every department listed, with the exception of computer science.

Masters of health science are supervised by faculty from the departments of anatomy, community health, dentistry, medical science, nutrition and food science, pharmacology, speech pathology, environmental studies and statistics.

M.Sc.N. is solely restricted to nursing and the M.Sc. Pharm. to pharmacy.

In total 842 students were reported, of which 473 were master's and 369 doctoral candidates.

Respondents were also questioned as to whether or not their research was oriented towards human biology and directly involved human subjects.

Table X
Human Biology

Type	Yes	No	No Response
Human Research	320	126	22
Human Subject	201	244	23
Non-Human	203	116	149

Of 320 professors indicating that their work was related to human biology, 201 involved the use of human subjects.

Responses were analyzed to determine, within each department, the distribution of professors (first row) and graduate students (second row) into the four disciplinary divisions (Table XI). Note that the row totals are not necessarily the sum of the other row elements. This is because some respondents had more than one primary interest, while some students did not have any primary interest indicated.

Table XI
Department Areas of Interest

Department	Cell Bio	Animal Bio	Plant Bio	Pop Bio	Total	Combined Total
Anatomy	8	10	0	2	19	
	6	5	0	0	15	34
Biochemistry	47	14	1	1	53	
	32	3	0	0	38	91
Botany	17	1	13	8	29	
	19	0	14	14	48	77
Clinical Biochemistry	9	11	0	3	18	
	5	10	0	2	17	35
Community Health	1	3	2	19	27	
	1	1	0	14	31	58
Dentistry	12	21	0	4	33	
	5	11	0	2	19	52
Forestry	3	1	5	9	18	
	1	0	0	13	19	37
Immunology	15	7	0	2	22	
	11	0	0	0	12	34
Medical Biophysics	38	6	0	5	43	
	38	4	0	1	53	96
Medical Science	45	55	0	9	93	
	9	13	0	9	37	130
Microbiology, Parasitology	17	5	0	2	21	
	17	4	0	3	20	41
Nursing	1	1	0	10	12	
	0	0	0	38	39	51
Nutrition, Food Science	2	7	1	1	7	
	4	16	0	0	18	25
Pathology	12	8	0	1	16	
	2	3	0	0	5	21
Pharmacology	14	18	0	1	29	
	8	27	0	2	39	68
Pharmacy	4	6	1	0	14	
	4	7	0	0	12	26
Physiology	7	25	0	0	30	
	8	35	0	0	42	72
Psychology	2	13	0	4	24	
	0	28	0	2	45	69
Speech Pathology	2	5	0	1	10	
	0	0	0	0	11	21
Zoology	20	34	5	28	74	
	38	36	1	60	136	210
Anthropology	1	3	0	9	11	
	0	2	0	24	38	49
Biomedical Engineering	5	15	0	2	19	
	4	11	0	0	16	35
Chem Eng, Applied Chem	1	4	2	0	5	
	2	1	0	0	5	10
Computer Science	0	1	0	1	1	
	0	3	0	5	8	9
Environmental Studies	7	3	5	17	29	
	1	0	0	2	3	32
Geography	0	0	1	1	3	
	0	0	2	1	5	8
Geology	0	3	1	4	6	
	0	0	0	5	9	15
Hist, Phil of Sci, Tech	1	1	0	1	4	
	0	0	0	0	1	5
Phys, Health Education	1	2	0	1	3	
	0	0	0	0	0	3
Statistics	0	0	0	2	4	
	0	0	0	0	9	13
Surgery	1	10	0	0	11	
	0	5	0	0	6	17
Totals	189	199	23	99	468	
	214	248	17	201	928	1396

The total number of professors and students involved is 1,396, who were distributed between the primary research areas with 403 in Cell Biology, 447 in Animal Biology, 300 in Population Biology and 40 in Plant Biology. The latter group was the only one to have less graduate students than the number of professors involved (0.7); Population Biology, on the other hand, averaged 2.0 students per professor.

Finally, tertiary research interests, being more representative of the type of research actually being conducted, were tabulated against the four primary divisions. The entries of Table XII are totals for both professors and students.

Table XII
Tertiary Interests versus Primary Interests

Tertiary Interests	Primary Interests: Cell Bio	Animal Bio	Plant Bio	Pop Bio	Total Tertiary
Algalogy	4	1	7	5	17
Anatomy	11	24	6	15	56
Anthropology	4	9	0	9	22
Bacteriology	15	9	3	3	30
Biochemistry	141	58	8	11	218
Biophysics	43	23	5	9	80
Ecology	13	19	16	86	134
Endocrinology	33	44	0	2	79
Engineering	6	30	1	2	39
Enzymology	45	19	2	4	70
Ethology	2	15	0	19	36
Evolution	15	26	7	41	89
Fisheries	2	6	2	15	25
Genetics	76	15	2	23	116
Geology	2	5	1	8	16
Histology	26	24	5	0	55
Immunology	62	22	1	5	90
Kinesiology	1	7	0	2	10
Limnology	1	7	3	14	25
Metabolism	43	56	5	4	108
Microbiology	19	2	5	2	28
Molecular Biology	107	19	2	2	130
Neuroscience	47	91	0	4	142
Nutrition	10	30	2	9	51
Paleobotany	0	0	2	6	8
Paleozoology	1	10	0	11	22
Parasitology	8	8	1	3	20
Pathology	32	33	3	5	73
Pharmacology	31	53	1	3	88
Physiology	54	112	13	13	192
Reproduction	14	11	2	16	43
Socio-biology	2	11	2	43	58
Statistics	7	13	1	31	52
Surgery	2	17	0	3	22
Taxonomy-Systematics	8	14	8	26	56
Toxicology	22	24	3	6	55
Virology	24	0	1	0	25

From Table XII it can be seen that the major interests of a number of researchers, faculty and students, overlapped the four primary designations. In particular biochemistry, neuroscience and physiology are substantially represented in both the Cell and Animal Biology divisions; genetics is represented in the Cell, Animal and Population Biology; ecology in all four divisions with particular strength in Population.

Examples of the overlap of tertiary fields among the four primary areas is shown in Table XIII.

Table XIII
Overlap of Tertiary Fields into other Primary Areas

Tertiary Interests	Primary Divisions: Cell	Animal	Plant	Population
1	Biochemistry (141)	Physiology (112)	Ecology (16)	Ecology (86)
2	Molecular Biology (107)	Neuroscience (91)	Physiology (13)	Socio-biology (43)
3	Genetics (76)	Biochemistry (58)	Taxonomy (8)	Evolution (41)
4	Immunology (62)	Metabolism (56)	Biochemistry (8)	Statistics (31)
5	Physiology (54)	Pharmacology (53)	Evolution (7)	Taxonomy (26)
6	Neuroscience (42)	Endocrinology (44)	Algalogy (7)	Genetics (23)

Organization for an ACAP Assessment (3)

The preceding review of the Life Sciences in terms of determining the research interests of the graduate faculty and the presently enrolled graduate students was designed to test the feasibility of the proposed ACAP approach; that is four separate assessments which would cover the areas of Cell, Animal, Plant and Population Biology. ACAP would then have the difficulty of translating these separate assessments into reports dealing with actual departments because the current graduate programs (which are in fact what ACAP actually has to assess) are administratively based in the various disciplines.

A number of general conclusions pertinent to organizing an ACAP assessment may be drawn from section 2 of this report. First, that approximately half of the graduate faculty have interests extending to two or even three discipline departments (Table II). Second, that at the University of Toronto, the areas of strength, in descending order, are in Animal Biology, Cell Biology, Population Biology and Plant Biology (Table IV). Third, that research and graduate work is concentrated in 18 tertiary fields of interest (Tables VI, VII). Some 45 tertiary fields of research were identified. Fourth, that the major emphasis in graduate work is at the M.Sc. and Ph.D. levels, with a slight preponderance towards the former (Table IX), and fifth, that in terms of the total numbers of individual professors and students, a separation along the four divisions proposed would give three large groups (Animal, 447; Cell, 403; Population, 300) and a small Plant Biology cohort.

However, in the opinion of this Task Force, the tertiary classification developed is more meaningful in terms of identifying the fields of research actually being developed within the four proposed divisions. Consideration of Tables XII and XIII indicates the extent of major overlaps of tertiary interests into two or three of the four main divisions.

This poses the question as to whether, for example, the type of physiology being carried out under Cell, Animal or Plant Biology could be evaluated or appreciated by all concerned. The answer to that question is surely "yes", in that physiological principles are the basis in each case. However, while the quality and standard of research might be comparable across divisions, it would certainly be true that the level at which the questions were being asked would differ significantly. This simply reflects the fact that studies on human and related animal physiology are in the forefront, whereas, again simply as an example, plant physiology is still answering fundamental questions already faced in other fields, largely due to the history of the field, the interests of researchers and the allocation of research funds by granting agencies.

It would be possible to conduct reviews of the Plant and Population divisions with relatively small overlap. Reviews of Cell and Animal Biology are extensively intertwined, and the Task Force did not see a logical manner in which meaningful separate assessments could be made in these areas.

The data in Table XII further indicate that, with the exception of virology, each tertiary field of interest extends across at least three divisions if not all four.

A further analysis was carried out to review whether there was any clustering of departments and tertiary fields of interest.

If we consider first a limited "Biology" ACAP assessment, only two departments are involved, i.e. botany and zoology. The latter is atypical because in size it is believed, after the Universities of Moscow and Paris, to be the third largest internationally.

From Table XIV it can be seen that botany has two strong tertiary interests, physiology and ecology, with biochemistry, biophysics, anatomy, algalogy, taxonomy, evolution and histology of lesser strength in terms of numbers of people. Similarly, zoology has major tertiary strengths in ecology, evolutionary and systematic biology, physiology, ethology, neuroscience, fisheries, genetics, limnology, biochemistry, anatomy and histology. Reproduction, parasitology and paleozoology are of lesser strength.

The point can be made for both departments that no one external appraiser could evaluate the breadth of the research and graduate programs. Accepting that an appraisal team is required, should they restrict themselves to the two biology departments when, for example, the group of neuroscience research faculty and students in zoology are a sub-set of the total research strength in this area within the university? This is, of course, ony a problem in universities with professional faculties of agriculture, dentistry, nursing, pharmacy, human and veterinary medicine.

The second alternative, involving a Life Sciences ACAP assessment, might involve the following breakdown:

1 Basic and applied biology
(Botany, biology, forestry, zoology)

2 Basic medical and dental sciences
(Anatomy, biochemistry, pharmacology, physiology, psychology)

3 Applied medical, dental and clinical sciences
(Clinical biochemistry, immunology, medical biophysics, medical science, nutrition and food science, clinical microbiology, pathology)

4 Medical and paramedical professions
(Community Health, dentistry, nursing, pharmacy, speech pathology, kinesiology)

In cases of universities with faculties of agriculture and veterinary medicine, these would fall in the fourth group, although individual departments might be placed in groups 1, 2 or 3.

Table XIV

Tertiary Research Interests versus Departments

Interest	Department 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Algalogy	1	2	5	0	1	1	3	1	0	0	3	0	0	0	0	1	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0
Anatomy	10	1	5	0	0	5	2	0	0	4	1	1	0	0	4	2	2	15	12	1	0	0	0	0	2	0	0	0	0	0	0
Anthropology	1	0	1	0	0	4	0	1	0	0	0	2	0	0	0	0	0	1	1	5	19	0	0	0	2	1	1	0	0	0	0
Bacteriology	0	5	3	2	1	2	2	0	2	4	12	0	1	1	1	0	2	0	0	2	0	1	2	0	2	2	0	0	0	1	0
Biochemistry	4	59	11	22	3	8	2	8	29	31	13	0	4	5	15	7	5	1	0	16	0	2	6	0	8	0	0	0	1	0	3
Biophysics	1	8	8	5	0	4	3	3	24	15	0	1	0	0	0	1	7	1	0	8	0	8	1	0	3	1	0	0	0	0	2
Ecology	0	4	22	0	1	3	19	0	0	2	9	0	1	0	0	0	0	1	0	74	3	0	0	0	21	4	3	2	0	1	0
Endocrinology	3	8	0	6	0	6	1	0	0	22	1	0	2	2	5	3	14	3	0	7	0	3	0	0	0	0	0	0	0	0	2
Engineering	1	1	0	0	0	2	3	0	2	3	0	0	0	0	1	0	6	0	0	1	0	18	4	0	0	0	0	0	0	0	3
Enzymology	1	24	2	10	0	2	0	1	6	10	4	0	1	3	6	7	2	0	0	3	0	1	1	0	2	0	0	0	1	0	0
Ethology	0	0	0	1	0	0	2	0	0	0	1	0	0	0	0	0	0	5	0	28	1	1	0	0	1	0	0	1	0	0	0
Evolution	2	8	9	1	1	4	3	1	0	2	3	1	0	1	0	0	1	3	1	45	8	1	0	0	2	0	9	0	0	1	1
Fisheries	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	22	1	0	0	0	4	0	0	0	0	1	0
Genetics	9	13	9	4	3	6	3	10	40	25	8	1	0	3	2	0	0	1	1	18	9	0	0	0	4	0	0	0	0	1	0
Geology	1	0	1	0	0	2	2	0	0	0	0	1	0	0	0	0	0	0	0	4	3	0	0	0	0	2	5	0	0	1	0
Histology	10	2	6	0	0	8	1	1	2	7	3	0	0	4	1	0	4	2	1	10	0	0	0	0	0	0	0	0	0	0	2
Immunology	4	13	0	7	0	4	0	30	14	19	7	0	0	8	1	2	0	0	0	6	0	2	0	0	0	0	0	0	0	0	0
Kinesiology	1	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	4	2	0	0	1	2	0	0	0	0	0	0	1	0	1
Limnology	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	6	2	1	0	0	1	0
Metabolism	0	17	5	10	0	2	1	2	3	21	2	0	11	4	8	4	6	1	0	6	0	1	1	0	3	0	0	0	0	0	5
Microbiology	0	4	5	1	0	1	3	0	5	0	6	0	0	0	1	0	0	0	0	3	0	0	2	0	3	0	0	0	0	0	0
Molecular Biology	5	32	5	5	0	5	0	9	42	19	13	0	1	4	9	1	1	1	0	8	0	1	1	0	1	0	0	0	1	0	0
Neuroscience	7	8	0	2	1	5	0	0	0	25	2	0	5	1	10	0	34	12	2	28	1	11	1	0	1	0	0	2	1	1	3
Nutrition	0	5	1	2	3	4	0	0	2	14	1	0	11	0	2	0	3	2	0	3	3	0	1	0	2	0	0	0	0	1	2
Paleobotany	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	2	2	3	0	0	0	0
Paleozoology	1	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	6	8	0	0	0	1	0	7	0	0	0	0
Parasitology	0	0	0	0	0	0	0	2	2	1	10	0	0	0	0	0	0	0	0	9	0	0	0	0	1	0	0	1	0	0	0
Pathology	6	7	7	1	2	10	0	6	3	14	4	0	1	13	3	0	1	2	0	1	1	0	0	0	2	0	0	1	0	0	1
Pharmacology	1	7	1	5	2	4	0	2	4	15	0	0	1	0	32	8	9	3	0	6	1	3	2	0	1	0	0	2	1	0	0
Physiology	3	9	19	2	3	11	6	2	5	31	4	4	4	4	11	1	41	5	1	31	1	9	1	1	3	0	0	1	2	2	9
Reproduction	1	5	2	1	5	0	1	1	3	5	0	4	1	1	0	0	3	0	0	9	1	0	0	0	1	0	0	0	0	0	0
Sociobiology	0	2	2	1	7	3	3	0	2	3	0	11	0	0	0	0	0	4	0	22	5	1	0	0	6	0	0	0	0	0	0
Statistics	1	2	1	0	14	5	3	1	3	11	1	1	1	1	1	1	1	1	2	12	2	2	0	0	4	0	0	1	0	7	0
Surgery	1	1	0	0	2	4	0	0	0	5	0	0	0	0	0	0	2	0	1	0	0	3	0	1	0	0	0	0	0	0	10
Taxonomy	0	0	14	0	0	2	4	0	0	3	4	2	0	0	0	0	0	1	0	29	9	1	0	0	3	1	4	2	0	0	1
Toxicology	3	3	2	5	3	1	2	1	5	5	1	0	4	4	8	3	0	1	1	2	0	1	1	0	6	0	0	0	0	0	0
Virology	5	3	2	0	0	0	0	0	11	4	9	0	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0

Key to Table XIV

Department Name	Department Number
Anatomy	1
Biochemistry	2
Botany	3
Clinical Biochemistry	4
Community Health	5
Dentistry	6
Forestry	7
Immunology	8
Medical Biophysics	9
Medical Science	10
Microbiology, Parasitology	11
Nursing	12
Nutrition, Food Science	13
Pathology	14
Pharmacology	15
Pharmacy	16
Physiology	17
Psychology	18
Speech Pathology	19
Zoology	20
Anthropology	21
Biomedical Engineering	22
Chem Eng, Applied Chem	23
Computer Science	24
Environmental Studies	25
Geography	26
Geology	27
Hist, Phil of Sci, Tech	28
Phys, Health Education	29
Statistics	30
Surgery	31

The third alternative, as proposed by ACAP, also involves a Life Science assessment with the groupings being Cell, Organismal and Population Biology. This approach has to be based on tertiary fields of interest and would result in the following divisions (Table XV).

Table XV

Possible Allocation of Tertiary Fields of Research Interests to the Three Divisions Proposed by ACAP.

Cell	Organismal	Population
Biochemistry	Physiology	Fisheries
Clinical Biochemistry	Reproduction	Ecology
Biophysics	Endocrinology	Ethology
Enzymology	Nutrition	Parasitology
Genetics	Anatomy	Socio-biology
Immunology	Histology	Anthropology
Molecular	Kinesiology	Evolution
Neuroscience	Biomedical Eng	Geology
Microbiology	Pathology	Paleobotany
Bacteria		Paleozoology
Pharmacology		Limnology
Algalogy		
Metabolism		

While there is some overlap of interests, the major research strengths in metabolism, molecular biology, immunology and genetics are in departments within the Faculty of Medicine. Similarly, research strength in biochemistry, neuroscience and physiology is very great within the Faculty of Medicine.

Therefore Cell Biology would almost exclusively involve the medical faculty; organismal biology is predominantly centred in the medical faculty; population biology does not involve the medical faculty.

It is also worth noting that in Table XIV, of the 37 tertiary fields listed, 12 are centred in only one department, and a further eight only involve two departments, which together account for nearly 54 percent of the fields designated. It is the remaining 17 fields that are widely spread across departments, particularly biochemistry, physiology, and neuroscience.

Conclusion (4)

The problems involved in a complex ACAP assessment spreading across departments and faculties are restricted to those universities with professional faculties in the health and life sciences. Further, the difficulties of coordinating trans-department assessments into disciplinary assessments for some 30 individual departments appear to be simply logistically impossible and, if carried out, likely to have a high degree of error involved.

We therefore propose that the ACAP assessment follow the second alternative and that the initial review be limited to basic and applied biology departments. The details in this report already indicate the breadth of graduate fields even within the biology departments.

However in those universities with cognate departments in other faculties we propose that the visiting assessment teams be increased by two or more people, who shall specifically be responsible for trans-department assessments in the major tertiary fields of research interests as listed in Table XIII of this report.

This will ensure that the auxiliary strength to graduate programs in biology departments, as represented by personnel in other departments of the university, are included in the overall assessment of the quality of the programs in biology. This interchange and collaboration should be recognized as adding new perspectives and research opportunities to the graduate students in biology. It should also be recognized by the visiting assessors that universities with separate departments of biochemistry, physiology, genetics, etc., as a matter of planning may have restricted duplication within a biology department. Thus an assessment of just a biology department might conclude that there was an imbalance in the research orientation of the department until it was placed in the context of the total array of Life Sciences graduate programs offered within a particular university.

At a later time a second assessment of basic medical sciences could be carried out, to be followed by applied and clinical sciences. As the medical and paramedical professions usually have licensing and review boards, the fourth group may be omitted from ACAP scrutiny. Inevitably, whatever scheme is adopted, individual members of the graduate faculty may be involved in two or even three assessments. We believe that this alternative breakdown of the Life Sciences is more realistic and we look forward to co-operating with ACAP along these lines.

Note

On the basis of the above report ACAP has agreed, in principle, to conduct an assessment of the Life Sciences following the alternative model proposed by the Task Force.

Acknowledgements

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New hope for alcoholic hepatitis victims

after 10 years of pharmacology and medicine research

by Pamela Cornell

A method for doubling the recovery rate of alcoholic hepatitis victims has been discovered after 10 years of research by two U of T professors of pharmacology and medicine, Yedy Israel and Hector Orrego, working with nine colleagues.

Professor Israel recently won a Pharmacological Society of Canada award for his research into liver disorders and his discovery, based on animal studies, that prophylthiouracil (PTU) could possibly reduce the incidence of alcoholic liver disease in the population. Recognition also came from an editorial in the US journal *Gastroenterology*, which hailed two scholarly papers by Israel and his colleagues as having an important impact on liver research.

Hepatitis is the result of liver cells dying from lack of oxygen. When alcohol is "burned" in the liver, oxygen is consumed. If a person drinks a lot for prolonged periods, the liver starts burning alcohol faster and using more oxygen. Cell death occurs in areas of the liver most remote from where oxygen enters. Proper functioning of the organ is hampered by scar tissue formed after cell death.

The investigators found that PTU slows down the "combustion" rate of alcohol in the liver, by reducing oxygen consumption. Thus the cells aren't deprived of life-sustaining oxygen.

PTU itself is not new. A synthetic drug, it has been used for 40 years to treat hyperthyroidism, once fatal in its most severe forms. Overproduction of thyroid hormones accelerated oxygen consumption in every tissue of the body. The result was oxygen depletion and cell death. PTU reduced oxygen consumption.

The first five years of Israel's investigation falls into the category of basic, rather than applied research. Before he and his colleagues could seek a cure for alcoholic hepatitis, they had to understand the mechanism by which alcohol changes liver cells to produce disease.

Initially, the researchers were working with rats. Normally rats won't consume alcohol, so it had to be mixed with a liquid diet that was their only food. Alcohol constituted 35 percent of their daily caloric intake compared to between 50 and 60 percent for many human alcoholics.

To precipitate liver damage, the atmosphere in which the rats were kept contained less oxygen than normal. That stimulated oxygen-supply problems experienced by the typical alcoholic, who smokes, has some degree of respiratory dysfunction, and suffers from anaemia.

Israel and his colleagues observed remarkable similarities among biochemical reactions in the rats' livers, the livers of people with hyperthyroidism, and the livers of laboratory animals treated with large doses of thyroid hormone. That observation led to experiments with PTU, which produced encouraging results.

Clinical testing was the next phase in the investigation. From 1975 to 1978, PTU was used to treat 150 to 200 cases of alcoholic hepatitis. Those studies, headed by Dr. Orrego, were carried out at the Addiction Research Foundation and at three of the University's teaching hospitals — Toronto Western, Toronto General, and St. Michael's.

While short-term testing on hospitalized patients proved promising, the long-term benefits of treatment with PTU are not known. This aspect is now being addressed.

Most of the cases needing treatment are 40- to 60-year-olds who have been drinking heavily for at least five years. Even though they realize liver disease can kill them, about 50 percent continue to drink heavily after discharge from hospital. Only about 20 percent stop drinking altogether, while about 30 percent reduce their consumption.

To determine the effects of long-term PTU treatment, the investigators have been given a $300,000 provincial lottery grant. They are now about half way through a three-year study.

Present clinical studies are headed by Drs. Orrego and Laurence Blendis. Also involved are nutritionist Joan Blake, clinical chemist Bushan Kapur, and Drs. Harold Kalant, Alan Medline, P.G. Walfish, Eve Roberts, and Ian Crossley.

Women in the major western religions

by Jacqueline Swartz

From the age of Abraham to the Ayatollah, religion has determined the role and status of women. This year, a new course, Women in the Major Western Religions, is looking at the position of women in Judaism, Christianity and Islam.

"We are exploring the scriptural passages in these traditions that critically affect women," says Jane McAuliffe, special lecturer in the Department of Religious Studies.

The undergraduate course, taught in the religious studies department but listed in the Women's Studies Program, will also look at marriage, property rights and inheritance, celibacy, political power and access to education. "Many of the arguments against women participating in public life come from scriptures," says McAuliffe, noting that some of the epistles of Paul, for instance, have been used as a basis for excluding women from the clergy. On the other hand, Paul's letter to the Galatians, which states that men and women are one under Christ, can be used in the opposite way.

There is a marked interest in Islam because of the constant media reports on Iran and the students' lack of information about the Islamic tradition. "Islam is the religion where westernized women would feel most oppressed, but this is as much a factor of the cultural and political situation in Islamic countries as it is a result of the Koran's teachings," says McAuliffe, who is doing her doctorate on medieval Islamic thought.

Thus in Iran, for example, the return to fundamentalism — in part a political protest against westernization, the US and the Shah — has signalled a resumption of veiling and segregating women, practices prevalent in conservative Saudi Arabia. In Turkey, on the other hand, the substitution of civil for Koranic law has allowed women to play a more active, visible public role. And polygamy — Islam allows no more than four wives to a man — is now mainly an economic issue: most men are simply unable to support more than one wife.

McAuliffe emphasizes that in reading scripture it's important to be open — "not to come on with a party line". For even in Islam, she says, there are areas where the Koranic message was an improvement over what went on before. "In the 7th century, Muhammad preached against female infanticide and the Koran gave women new rights of inheritance."

And although feminists have accused Judaism of being the first patriarchal religion, which led women away from the worship of female deities like Astarte, the picture is mixed, says McAuliffe. "There is an exaltation of women as mothers and wives in Proverbs, and the Talmud puts a positive emphasis on female conjugal rights."

Judaism, like Islam and Christianity to a lesser extent, has a strong menstrual taboo: under the law of *nidah*, a woman is considered unclean and may not be touched for close to half the month. Which is why, says McAuliffe, it's so surprising to read about Christ healing the bleeding woman who touched the hem of his garment. McAuliffe points also to the description of Christ appearing to Mary Magdalene after the resurrection. "She was entrusted with His message, although under Jewish law, women were not acceptable as witnesses — that's why the Apostles didn't believe her."

Christianity does stress spiritual equality, "but this hasn't always worked itself into status or role equality," says McAuliffe, remarking that misogynist passage like woman is "the devil's gateway" are not lacking in the history of scriptural interpretation. The negative Christian view of female sexuality has doubtless done its damage, she adds.

Can a feminist logically adopt a patriarchal religion? "That's a theological question which goes beyond the scope of the course," says McAuliffe. In the future, however, the course will deal with the issue of women in the clergy.

Arts & Science reviews grade 13 English exemption

A revised exemption from the grade 13 English requirement for admission to the Faculty of Arts & Science was approved March 3 by the faculty's General Committee. The exemption would apply to students whose first language is not English and who have studied in an English-language school system for no more than four years.

The revision, recommended by Governing Council, provides for the inclusion of grade 13 English-as-a-second-language (ESL) as an alternative to grade 13 English, provided the Faculty is satisfied that, in content and standard, the ESL course is at least comparable to grade 13 English.

The student entering from a school that doesn't offer an acceptable grade 13 ESL course may satisfy an appropriate standard in a recognized test of facility in English (as approved by the General Committee Dec. 3), such as the University of Michigan English Language Test, the Test of English as a Foreign Language (TOEFL) administered by the US Educational Testing Service, or the Certificate of Proficiency in English issued by the University of Cambridge. In addition to passing one of those tests, the student would be required to have six grade 13 credits.

The revised admission requirement will take effect in 1982.

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(East Asian Studies Committee, CIS, and History)

Educating Engineers for the Future.
Prof. M. Kranzberg, Georgia Institute of Technology; second in series of three, "Searching for the Engineer's Social Responsibilities". 116 Wallberg Building. 1 p.m.

The Indian Ocean as a Theatre of Great Power Conflict.
Prof. P.V. Jayasekera, University of Sri Lanka; third in series, "India's Political Development and Prospects, 1980". Upper Library, Massey College. 2 to 4 p.m.
(South Asian Studies Committee, CIS)

The Theatre of Sean O'Casey.
Prof. Thomas Kilroy, University College, Galway. Lounge, Elmsley Hall, St. Michael's College. 4 p.m.
(Celtic Arts Society)

Tuesday, March 11
Tiawanaco: Cultura Olvidada.
Mario Schwartz, New Acropolis of Canada, Toronto; illustrated lecture in series, "Pre-Columbian America". 1070 Sidney Smith Hall. 4 p.m.
(Spanish & Portuguese)
(Please note, lecture will be given in Spanish.)

Ideas and Realities of Community from More to Milton.
Prof. George Hibbard, University of Waterloo. Upper Library, Massey College. 4.10 p.m.
(English and SGS)

How Cells Move.
James D. Watson, Cold Spring Harbor Laboratory; visiting lecturer series 1979-80. Auditorium, Faculty of Education, 371 Bloor St. W. 8 p.m.
(Biochemistry and SGS Alumni Association)

Wednesday, March 12
Aesthetic and Dramatic Techniques of Sean O'Casey.
Sister Una Hayes, St. Louis University. Lounge, Elmsley Hall, St. Michael's College. 12 noon.
(Celtic Arts Society)

Mechanics of Imperialism: Britain and the Ottoman Empire.
Prof. Marian Kent, Deakin University, Victoria, Australia. Upper Library, Massey College. 4.10 p.m.
(Middle East & Islamic Studies and SGS)

Jonah and the Whale: The Appearance, Disappearance, and Reappearance of Administrative Law.
Prof. Harry W. Arthurs, Osgoode Hall Law School; 12th annual Cecil A. Wright Memorial Lecture. Moot Court, Faculty of Law. 4.30 p.m.
(Law and SGS)

The Greek Experience in Canada.
Prof. Peter Chimbos, University of Western Ontario; lecture in program, "Images of Modern Greece". 205 Faculty of Library Science, 140 St. George St. 7.30 p.m. Information, 978-6564.
(Greek Students' Association and Greek Community of Metro Toronto Inc.)

The House and Its Community.
Jack Diamond, A.J. Diamond Architects & Planners, Toronto; lecture in series, "Housing in the 80s". 3153 Medical Sciences Building. 8 p.m.
(Landscape Architecture)

Thursday, March 13
Who Runs Britain: Elites in British Society since 1880.
Prof. Harold Perkin, University of Lancaster. 1033 Sidney Smith Hall. 3 p.m.
(History and SGS)

Rituals of a Lost Faith: Yeats and the Theatre.
Stephen Putzel, graduate student, Department of English. Lounge, Elmsley Hall, St. Michael's College. 4 p.m.
(Celtic Arts Society)

D.S. Mirsky — Aristocrat of Critics.
Prof. G.S. Smith, University of Birmingham. 1069 Sidney Smith Hall. 4.10 p.m.
(Slavic Languages & Literatures)

Le Corbusier and the Post-Modern Movement.
Jerzy Soltan, formerly Harvard University, now practising in Boston. 3154 Medical Sciences Building. 8 p.m.
(Architecture, Toronto Society of Architects and Ontario Association of Architects)

Friday, March 14
The Politics of Stalemate and Inflation in the Southern Cone.
Prof. Jorge Neff, University of Guelph. 3037 Sidney Smith Hall. 12.15 p.m.
(Latin American Studies Committee, CIS, and Political Economy)

Those Exasperating Global Environmental Problems.
Prof. Kenneth Hare, Department of Geography, IES, and provost, Trinity College; last in UC science series 1979-80, "From Lasers to Light Years — What Exactly Is Scientific Research?". 179 University College. 2.10 p.m.

The Political Theory of Nationalism: Medieval Variant.
Susan Reynolds, London, Eng. Common Room, Pontifical Institute of Mediaeval Studies, 59 Queen's Park Crescent E. 3 p.m.
(History, Medieval Studies and SGS)

Saturday, March 15
Earth Rocks and Moon Rocks: Four-and-a-Half Billion Years of History.
Prof. Derek York, Department of Physics. Convocation Hall. 8.15 p.m., doors open 7.30 p.m.
(Royal Canadian Institute)

Monday, March 17
The Oil Sketches of Peter Paul Rubens.
Prof. Em. Julius Held, Barnard College. 2118 Sidney Smith Hall. 2 p.m.
(Fine Art)

Tuesday, March 18
The End of Courtliness.
David Daiches, Edinburgh; first of three 1979-80 Alexander Lectures, "Literatures and Gentility in Scotland". West Hall, University College. 4.30 p.m.

Wednesday, March 19
Class Politics and the Implications of the Parliamentary Elections 1980.
Prof. J. Lele, Queen's University; fourth lecture in series, "India's Political Development and Prospects, 1980". Upper Library, Massey College. 2 p.m.
(South Asian Studies Committee, CIS)

The Emergence of Gentility.
David Daiches, Edinburgh; second of three 1979-80 Alexander Lectures, "Literature and Gentility in Scotland". West Hall, University College. 4.30 p.m.

Moral Values in Today's China.
Prof. J. Ching, Department of Religious Studies; last in Victoria College public lecture series 1980. Alumni Hall, Victoria College. 4.30 p.m.

Events

Lectures *(Continued)*

Wednesday, March 19
Polish Emigré Poetry.
Prof. Bogdan Czaykowski, University of British Columbia. Croft Chapter House, University College. 8 p.m.
(Russian & East European Studies, Slavic Languages & Literatures and Comparative Literature)
(Please note, lecture will be given in English.)

The House as Mirror of Self.
Prof. Clare Cooper-Marcus, University of California, Berkeley; lecture in series, "Housing in the 80s". 3153 Medical Sciences Building. 8 p.m.
(Landscape Architecture)

Thursday, March 20
The Fluidity of the Yeast Genome.
Prof. G. Fink, Cornell University. Room 689, Princess Margaret Hospital, 500 Sherbourne St. 12.30 p.m.
(Medical Biophysics and SGS)

The Rebellion against Gentility.
David Daiches, Edinburgh; last of three 1979-80 Alexander Lectures, "Literature and Gentility in Scotland". West Hall, University College. 4.30 p.m.

Friday, March 21
Class and Agrarian Change in Southeast India since Independence.
Prof. Kathleen Gough, University of British Columbia. Room 205, Faculty of Library Science, 140 St. George St. 2 to 4 p.m.
(Anthropology and SGS)

Some Reflections on Shevchenko Scholarship.
Prof. Bohdan Rubchak, University of Illinois, Chicago. 2102 Sidney Smith Hall. 7.30 p.m.
(Chair of Ukrainian Studies and Chair of Ukrainian Studies Foundation)

Tuesday, March 25
Discrimination.
Prof. Jan Narveson, University of Waterloo. Croft Chapter House. 4 p.m.
(Philosophy and SGS)

Political Systems and Economic Efficiency in the East European Context.
Prof. Wlodzimierz Brus, University of Oxford. 3050 Sidney Smith Hall. 4 p.m.
(Russian & East European Studies)

Creative Exuberance vs. Critical Choice: Thoughts on Mozart's String Quartet Fragments.
Prof. Christoph Wolff, Harvard University; assisted by Orford String Quartet. Walter Hall, Edward Johnson Building. 8 p.m.
(Music and SGS)

Meetings & Conferences

Thursday, March 13
Research Board.
Special meeting to discuss revised proposal for Canadian Institute of Toxicology. Council Chamber, Simcoe Hall. 2.30 p.m. Information, 978-6475.

Friday, March 14
Beyond the White Paper: Planning for People in the 80s.
One-day conference to consider planning needed in the 1980s and kinds of strategies and institutional mechanisms required.
Session 1 — Planning at the Turn of the Decade. Panelists: Prof. J.B. Cullingworth, Department of Urban & Regional Planning; Ann Barstow, Ontario Welfare Council; Marion Dewar, mayor, City of Ottawa; chairman, Max Bacon, Canadian Institute of Planners. 9.15 a.m.
Session 2 — Major Problems of the 80s. Presentations: Economic Development, Don Richmond, deputy commissioner of planning, Metropolitan Toronto; Social Development, Marvyn Novick, Social Planning Council of Metropolitan Toronto; chairman, Earl Miller, Ontario Welfare Council. 10.45 a.m.
Session 3 — Energy Conservation. Presentation: William Thomson, commissioner of planning, Regional Municipality of Waterloo; chairman, Jeffrey Patterson, Social Planning Council of Metropolitan Toronto. 1.45 p.m.
Session 4 — Planning Opportunities at Three Levels of Government. Presentations and panel discussion: Municipal Level, Prof. Michael Goldrick, York University; Regional Level, Peter Smith, Social Service Department, Regional Municipality of Peel; Provincial Level, Maureen Quigley, Metropolitan Toronto Department of Social Services; chairman, Prof. Meyer Brownstone, Department of Political Economy. 3 p.m.
North Auditorium, OISE, 252 Bloor St. W.
Registration fee $6, students $2. Information, 978-4478 or 978-2072.
(Urban & Regional Planning, Urban & Community Studies and Ontario Welfare Council)

Trade and Interconnections in the Third Millennium B.C. Mediterranean World.
March 14 and 15. Society for Mediterranean Studies spring conference.
Friday, March 14, will be devoted to presentation of papers on any aspect of "trade and interconnections" in B.C. times.
Saturday, March 15, colloquium on the third millennium. Speakers: Prof. James Muhly, University of Pennsylvania, "The Sources of Gold and Silver in the Area from Greece to Southern Mesopotamia"; Prof. D.B. Redford, Department of Near Eastern Studies, "The Mediterranean in the Third Millennium — An Egyptian Perspective"; Prof. Walt Rast, Valparaiso University, "Palestine in the Third Millennium: Evidence for Interconnections".
Final event will be a panel discussion, "Problems in Mediterranean Interconnections — Practice and Theory".
Room 205, Faculty of Library Science, 140 St. George St.
Registration: Regular society members $7.50, student members $3.50; non-members $10, students $5.
Information, 978-3057.
(Society for Mediterranean Studies/ Mediterranean Studies Group, Centre for Religious Studies, Victoria College and ROM)

Wednesday, March 19
The Value of Individualism in Modern Japan.
Two-day symposium, March 19 and 20. Debates Room, Hart House. Wednesday, March 19 — 9.30 a.m. to 5.30 p.m.; Thursday, March 20 — 9.30 a.m. to 4.30 p.m. Information and programs, 978-3301.
(Joint Centre on Modern East Asia, East Asian Studies and SSHRC)

Seminars

Monday, March 10
Ethnicity, Ideology and Education: Ontario's Heritage Languages Program.
Yuriy Weretelnyk, Ontario Institute for Studies in Education. St. Vladimir's Institute, 620 Spadina Ave. 7.30 p.m.
(Canadian Institute of Ukrainian Studies, Toronto office, U of T; Ukrainian Professional & Business Club of Toronto, St. Vladimir Institute)

Tuesday, March 11
A Case Study of Fluid Migration during Metamorphism.
Prof. John Ferry, Arizona State University. 202 Mining Building. 4 p.m.
(Geology)
(Please note change.)

Mechanistic Studies — Topical Drug Delivery Systems.
Prof. W.I. Higuchi, University of Michigan; Sandoz Lecture 1979-80. Main auditorium, Addiction Research Foundation, 33 Russell St. 5 p.m.
(Pharmacy and Sandoz Pharmaceutical Co.)

Wednesday, March 12
Dynamics of the Boreal Forests of the Laurentian Highlands.
Charles Cogbill, graduate student in botany, Erindale College. Room 7, Botany Building. 4 p.m.

Thursday, March 13
The Fibroblast and Contraction.
Prof. Christopher A. Squier, University of Iowa; R.S. McLaughlin Foundation visiting scientist. 4384 Medical Sciences Building. 12 noon.
(Dentistry)

An Air Pollution Control Expedition to Peking, China.
R.V. Portelli, Atmospheric Environment Service, Downsview. 119 Wallberg Building. 4 p.m.
(IES and Environmental Engineering)

On the Inheritance of Acquired Somatic States of the Immune System in Inbred Mice.
Dr. Edward Steeles, Ontario Cancer Institute. 432 Ramsay Wright Zoological Laboratories. 4 p.m.

Friday, March 14
Landscape Restoration Work at Annapolis Royal.
Gord Ratcliffe and Peter Klynstra, CBCL Associates Ltd., Halifax; project work being undertaken on the east coast. Room to be confirmed. 12.30 to 2 p.m. Information, 978-6788.
(Landscape Architecture)

Monday, March 17
The Molecular Dissection of an Idiotype.
Prof. J. Donald Capra, University of Texas Southwestern Medical School. 417 Best Institute. 12.30 p.m.
(BBDMR)

Tuesday, March 18
Studying the Development of British Oil Policy in the Period up to the Second World War.
Prof. Marian Kent, Deakin University, Victoria, Australia. 14-098 Robarts Library. 1 p.m.
(Middle East & Islamic Studies and SGS)

Geological Evolution of the Canadian Eastern Continental Shelf.
Graham Williams, Atlantic Geoscience Centre. 202 Mining Building. 4 p.m.
(Geology and SGS)

Desertification in China.
Prof. Hou Ren-zhi, Beijing (Peking) University. 620 Sidney Smith Hall. 4 p.m.
(Geography)

Wednesday, March 19
Planning and Housing in Israel: A Critical Review.
Prof. Elia Werczberger, University of Tel Aviv; visiting SUNY, Buffalo. Coach House Conference Room, 150 St. George St. 3 to 5 p.m.
(Urban & Community Studies, Urban & Regional Planning and SGS)

Membrane Lipids and Glycoconjugates in Cell-Cell Interactions in a Cellular Slime Mould, *Dictyostelium discoideum*.
Prof. N. De Silva, Banting & Best Department of Medical Research. Room 7, Botany Building. 4 p.m.

Thursday, March 20
Modes of Production in Southern India.
Prof. Kathleen Gough, University of British Columbia. 202 Galbraith Building. 12 noon to 2 p.m.
(Anthropology and SGS)

Translation or the Question of Equivalence.
Prof. Bogdan Czaykowski, University of British Columbia. Common Room, second floor, 21 Sussex Ave. 4 p.m.
(Russian & East European Studies, Slavic Languages & Literatures and Comparative Literature)

Waste Facility Siting — Legal Requirements and Public Concerns.
J. Castrilli, Environmental Law Association, Toronto; series on waste management. 119 Wallberg Building. 4 p.m.
(IES and Environmental Engineering)

Sensory Basis of Mosquito Behaviour.
Prof. Susan McIver, Department of Microbiology & Parasitology. 432 Ramsay Wright Zoological Laboratories. 4 p.m.

History of the City of Beijing (Peking).
Prof. Hou Ren-zhi, Beijing University. Senate Chamber, Glendon College, York University, Bayview Ave. 8 p.m.
(Geography, Joint Centre on Modern East Asia)

Friday, March 21
Phytoplankton Succession, a Rematch between a Tortoise and a Hare.
Prof. Roy Knoechel, Erindale College. Room 7, Botany Building. 3.30 p.m.

Recent Research into Immunity to *Trichinella spiralis*.
Prof. Derek Wakelin, University of Glasgow. Dean's conference room, Medical Sciences Building. 3 p.m.
(Microbiology & Parasitology and Immunology)

Monday, March 24
Cossacks in the Historical Fiction of Nikolai Gogol and Panteleimon Kulish.
Prof. Romana Bahrij Pikulyk, York University. St. Vladimir's Institute, 620 Spadina Ave. 7.30 p.m.
(Canadian Institute of Ukrainian Studies, Toronto office, U of T; Ukrainian Professional & Business Club of Toronto, St. Vladimir Institute)

Tuesday, March 25
Cell Biology of Mouse Leukemia Virus.
Prof. Arthur A. Axelrad, Department of Anatomy. 235 FitzGerald Building. 3.30 p.m.
(Microbiology & Parasitology)

Some Problems with Crystal Settling in Magma Chambers.
Prof. Ian Campbell, Earth & Planetary Science, Erindale College. 202 Mining Building. 4 p.m.
(Please note change.)

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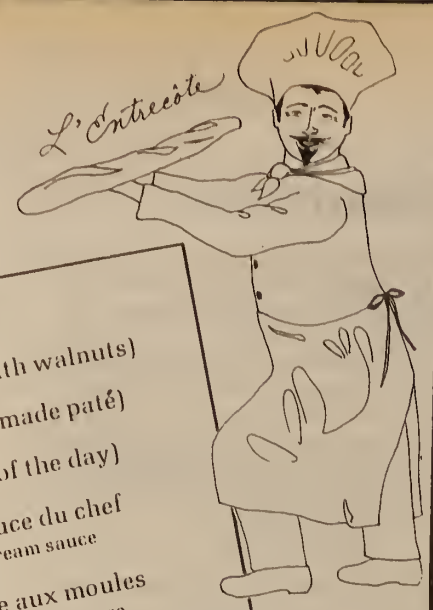

Menu

Salade aux Noix (Salad with walnuts)
or
Terrine du chef (Home-made paté)
or
Potage du jour (Soup of the day)

Entrecôte Grillée sauce du chef
Grilled sirloin with cream sauce
or
Saumon poché sauce aux moules
Poached salmon with mussel sauce
or
Côtes d'Agneau vert-pré
Grilled lambchops

Frites
french fries

Café
expresso 50¢ extra

$5.95

French Brie $2.00

Desserts

Creme caramel	2.00
Mousse au chocolat	2.00
Patisserie Gavroche	2.00
Tarte maison	2.00
Glace Gavroche	2.00
expresso	1.00
cappucino	1.50
Perrier	1.00

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Events

Plays, Readings & Opera

Joanne Kolomyjec in Opera Department's production of *Dialogues of the Carmelites*

Monday, March 10
D.G. Jones.
Poet will read from his own work. Seventh in spring program, Poetry Readings at UC. Walden Room, University College Students' Union, 79 St. George St. 4.10 p.m.

Wednesday, March 12
Timothy Findley.
Writer-in-residence will read from his own works. Additional reading in spring program, Poetry Readings at UC. Walden Room, University College Students' Union. 4.10 p.m.

Applause.
Tony award-winning musical presented by New Vic Theatre Company. Hart House Theatre to March 15 at 8 p.m. Tickets $4.50; students and senior citizens $3.50. Information, 978-3820.

Thursday, March 13
Marat/Sade.
By Peter Weiss (in German). Annual production of the German Department Theatre Group. George Ignatieff Theatre, Trinity College, Devonshire Place, to March 15 at 8 p.m. Tickets $2.50; students and senior citizens $1.50. Information, 978-3947.

Friday, March 14
Dialogues of the Carmelites.
By Francis Poulenc; conductors, James Craig and Michael Evans; director, Constance Fisher. Second production by Opera Department this season, opera tells of fate of small group of Carmelite nuns who refuse to bow to the anarchy and terror of the French Revolution. MacMillan Theatre, Edward Johnson Building. March 14 and 15 at 8 p.m. Tickets $4.50; students and senior citizens $2.50. Information, 978-3744.

Sponsus.
Play on the subject of the wise and foolish virgins.
Visitatio Sepulchri.
Play about the visit of the Marys to the Sepulchre.
Two Latin music-dramas from the 12th century produced by PLS, directed by Marcy Epstein. West Hall, University College. March 14 to 16 at 8 p.m. Information, 978-5096.

Monday, March 17
Medieval English Love Poetry.
Prof. John Cartwright, Department of English, and David Parry, PLS. Eighth in spring program, Poetry Readings at UC. Walden Room, University College Students' Union. 4.10 p.m.

Wednesday, March 19
President Wilson in Paris.
By Ron Blair; sinister, ironic comedy of menace and masquerade, first Toronto production. Last of five productions in Drama Centre 1980 Studio Theatre Season. Studio Theatre, Glen Morris St. March 19 to 22 and 26 to 29 at 8 p.m. Admission $1. Information, 978-8668.

Monday, March 24
Seamus Heaney and Ted Hughes.
John Lavery will read Seamus Heaney and Prof. Michael Kirkham will read Ted Hughes. Ninth in spring program, Poetry Readings at UC. Walden Room, University College Students' Union. 4.10 p.m.

Events

Colloquia

Monday, March 10
Biblical Criticism and Theology: A Current Agenda for the Discussion.
Prof. Hans W. Frei, Yale University. Centre for Religious Studies lounge, 14-352 Robarts Library. 4 p.m.

Thursday, March 13
Helena's Miraculous Cure of the King's Fistula in Shakespeare's *All's Well that Ends Well*.
Prof. David Hoeniger, Department of English, Victoria College. IHPST Common Room, fourth floor, 280 Huron St. 4 p.m.

The Interacting Boson Model of the Nucleus.
Prof. Frank Iachello, Yale University. 102 McLennan Physical Laboratories. 4.10 p.m.
(Physics and SGS)

Friday, March 14
The Concept of Authority in the Thought of Ayatollah Khomayni and in the Iranian Constitution.
Prof. William G. Millward, visiting Centre for Religious Studies. Religious Studies lounge, 14-352 Robarts Library. 1 p.m.

Charles Darwin and Group Selection.
Prof. Michael E. Ruse, University of Guelph. IHPST Common Room, fourth floor, 280 Huron St. 3 p.m.

Thursday, March 20
The Physicist in Industry: How His Role Contrasts with that of the University Physicist.
Gilbert A. Hawkins, Eastman Kodak Research Laboratories; American Physical Society visiting lecturer. 102 McLennan Physical Laboratories. 4.10 p.m.
(Physics and APS)

Friday, March 21
Organoplatinum Chemistry Related to Catalysis.
Prof. R.J. Puddephatt, University of Western Ontario. 158 Lash Miller Chemical Laboratories. 3.30 p.m.

Miscellany

Tuesday, March 11
Portraiture.
Camera Club studio night with special guest, Herb Nott. Camera Club Room, Hart House. 7.30 p.m.

Wednesday, March 12
What's What in Industrial Strategy.
Seventh in Canadian science policy discussion series. Panelists will include Hon. Stuart Smith, MPP; Hon. Michael Cassidy, MPP; and Dean M.B. Clarkson, Faculty of Management Studies. Each member of the panel will make a brief introductory statement; general discussion will follow.
Wilson Hall Common Room, New College, Willcocks St. 12 noon to 2 p.m.
(Club of GNU and ORA)

Gallery Club, Hart House.
Annual meeting and gala dinner. Prepandials at 5 p.m. with annual meeting following immediately; dinner approximately 6.45 p.m.
Tickets $7.50. Reservations 978-5361.

Thursday, March 13
Jews, Catholics, and the Righting of Wrongs.
Fr. E.A. Synan, St. Michael's College; fifth in series of six luncheon talks followed by discussion, "On Being a Catholic in the 80s". Brennan Lounge, St. Michael's College. 12 noon to 1 p.m.
(Christianity & Culture Program and SMCSU)

Friday, March 14
International Festival 80.
One-day festival sponsored by International Student Centre. International pavilion at ISC, 33 St. George St., will be open from 10 a.m. to 6 p.m.; traditional foods of the world will be served from 11.30 a.m. to 1.30 p.m.
"Music and Dance from Around the World", variety show to benefit foreign student bursary fund, will be presented in auditorium, Faculty of Education, 371 Bloor St. W. at 8 p.m.; admission $2. Information, 978-6617.

Tuesday, March 18
Debate.
Resolved: That the Ontario government has an obligation to provide education in the French language to those who wish it. Honorary visitor: Hon. Bette Stephenson. Debates Room, Hart House. 8 p.m.

Wednesday, March 19
The Greek Immigrant.
Panel discussion on social issues in "Images of Modern Greece" program. Hellenic Cultural Centre, 30 Thorncliffe Park Drive. 7.30 p.m. Information, 978-6564.
(Greek Students' Association and Greek Community of Metro Toronto Inc.)

Governing Council & Committees

Monday, March 10
Business Affairs Committee.
Board Room, Simcoe Hall. 3.15 p.m.

Planning & Resources and Business Affairs Committees.
Combined meeting. Council Chamber, Simcoe Hall. 4 p.m.

Wednesday, March 12
Admissions & Awards Subcommittee.
Cancelled.

Monday, March 17
Planning & Resources Committee.
Council Chamber, Simcoe Hall. 4 p.m.

Tuesday, March 18
Committee on Campus & Community Affairs.
Council Chamber, Simcoe Hall. 4 p.m.

Wednesday, March 19
Curriculum & Standards Subcommittee.
Council Chamber, Simcoe Hall. 4 p.m.

Thursday, March 20
Governing Council.
Council Chamber, Simcoe Hall. 4.30 p.m.

Films

Wednesday, March 12
The French.
Seventh program of nine in series, "Cultures"; continuation of fall series showing aspects of cultures of world's peoples. International Student Centre. Two screenings, 12 noon and 1 p.m.
(Community Relations and ISC)

The House of Seven Gables.
Directed by Joe May (1940); 17th in series, "German Film Directors in Hollywood". Ontario Film Theatre, Ontario Science Centre, 770 Don Mills Road. 7.30 p.m. Admission to centre $2, students $1.
(UC, Germanic Languages & Literatures, Cinema Studies, U of T; Goethe Institute Toronto and Ontario Film Institute)

Thursday, March 13
La tierra prometida.
(Chile: Promised Land)
Directed by Miguel Littin (Chile, 1974); fourth in series, "Spanish Language Film". Ontario Film Theatre, Ontario Science Centre, 770 Don Mills Road. 7.30 p.m. Admission to centre $2, students $1.
(Spanish & Portuguese, Cinema Studies, U of T; Ontario Film Institute)

Wednesday, March 19
Rastaman.
Film on Rastafarians, eighth in series, "Cultures"; continuation of fall series showing aspects of cultures of world's peoples. International Student Centre. Two screenings, 12 noon and 1 p.m.
(Community Relations and ISC)

Detour.
Directed by Edgar Ulmer (1946); 18th in series, "German Film Directors in Hollywood". Ontario Film Theatre, Ontario Science Centre. 7.30 p.m. Admission to centre $2, students $1.
(UC, Germanic Languages & Literatures, Cinema Studies, U of T; Goethe Institute Toronto and Ontario Film Institute)

Exhibitions

Monday, March 10
Victoria University Photographic Club.
Annual exhibition of photography by students at Victoria College. New Academic Building, 73 Queen's Park Cr. E., to April 11. Opening reception, March 10 from 4 to 6 p.m.

Tuesday, March 11
Katja Jacobs — New Works.
Paintings by artist who works in mixed media both on paper and on canvas. Hart House Art Gallery to March 28. Gallery hours: Monday, 11 a.m. to 9 p.m.; Tuesday-Saturday, 11 a.m. to 5 p.m.; Sunday, 2 to 5 p.m.

Bulletin

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JOHN NEWMARK — piano

Monday, March 24, 8:30 p.m.
CAMERATA — chamber ensemble:
Suzanne Shulman — flute, James Campbell — clarinet, Adele Armin — violin, Mark Childs — viola, Coenraad Bloemendal — cello, Kathryn Root — piano

Sunday, March 30, 8:30 p.m.
LOIS MARSHALL — mezzo-soprano
with the Hamilton Philharmonic Virtuosi/conductor — Boris Brott

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Events

Concerts

Faculty of Music Jazz Ensemble at Canadian Jazz Band Festival in May, 1979.

Monday, March 10
Chinese Instrumental Music Ensemble of Toronto.
Ming Wong, director; third in series of five lecture-demonstrations, "Music of the world's peoples". 116 Edward Johnson Building. 8 p.m. Information, 978-6564.
(Music, FEUT, Community Relations, East Asian Studies and South Asian Studies)

Anagnason & Kinton, Duo Pianos.
James Anagnason and Leslie Kinton will perform Dumbarton Oaks Concerto and Petrouchka by Stravinsky and world premiere of The Phoenix by Pierre Gallant. Concert Hall, Royal Conservatory of Music. 8.15 p.m. Information, 978-3771.

Wednesday, March 12
Jack Grunsky Trio.
Wednesday afternoon pop. East Common Room, Hart House. 12 noon to 2 p.m.

William Perry, Baritone.
Noon hour concert, program includes British folk songs, early Italian songs, selections from Schumann's Dichterliebe and operatic arias. Concert Hall, Royal Conservatory of Music. 12.15 p.m. Information, 978-3771.

Thursday, March 13
Norman E. Brown, Baritone, and Charlene Biggs, Piano.
Afternoon classical. Music Room, Hart House. 1.10 p.m.

Joseph Macerollo, Accordion.
Twilight concert, program of works by Foss, Camilleri, Buczynski and Wraggett. Concert Hall, Royal Conservatory of Music. 5.15 p.m. Information, 978-3771.

Piping Lecture/Recital.
Seumas MacNeill, College of Piping, Glasgow. Croft Chapter House, University College. 8 p.m. Admission $2.50. Information, 978-6564.
(Community Relations and Sheridan College)

Sunday, March 16
Mendelssohn at Hart.
Orford String Quartet, Mark Childs, viola and Elyakim Taussig, piano; fourth of five concerts presented by Music Committee in cooperation with CBC. Great Hall, Hart House. 3 p.m.
Tickets free to Hart House members, available at hall porter's desk; others $2.50 from CBC ticket office, 925-3311, ext. 4835.

Music of Christos Leontis.
Contemporary Greek composer will perform his works with his musical group; concert in program, "Images of Modern Greece". Convocation Hall. 7 p.m.
Tickets $10, students $7, available at Community Relations Office, Simcoe Hall, or at door. Information, 978-6564.
(Greek Students' Association, Greek Community of Metro Toronto Inc.)

Monday, March 17
The East Asian Zither Tradition.
Un-Sook Kim, *kayagŭm* (Korean), and Martha Takata, *koto* (Japanese); fourth in series of five lecture-demonstrations, "Music of the world's peoples".
116 Edward Johnson Building. 8 p.m. Information, 978-6564.
(Music, FEUT, Community Relations, East Asian Studies and South Asian Studies)

Tuesday, March 18
Horn Quartet.
Paul Schabas and three others, afternoon classical. Music Room, Hart House. 1.10 p.m.

University Singers.
Conductor William R. Wright; program: Sharon Fragments by Beckwith, Five Flower Songs by Britten, Introduction and Three Balletti by Gastoldi, three madrigals by Frescobaldi, and folk songs by Wilcocks and Reger. Trinity College Chapel. 8 p.m. Information, 978-3744.

Thomas West, Guitar.
Master of music in performance recital. Walter Hall, Edward Johnson Building. 8.15 p.m.

Wednesday, March 19
Alf Coward Trio.
Wednesday afternoon pop. East Common Room, Hart House. 12 noon to 2 p.m.

Thursday, March 20
Ross Compton, Piano.
Afternoon Classical. Music Room, Hart House. 1.10 p.m.

Collegium Musicum.
Directed by Douglas Bodle. Walter Hall, Edward Johnson Building. 2.10 p.m. Information, 978-3744.

Saturday, March 22
Faculty of Music Jazz Ensemble.
Under the direction of Phil Nimmons and David Elliott, program includes works by Rob McConnell, Phil Nimmons, Don Menza, Ian McDougall, Thad Jones, Stan Kenton, Sammy Nestico and David Elliott. Ensemble won the open class for contemporary jazz at Canadian Jazz Band Festival in May, 1979. MacMillan Theatre, Edward Johnson Building. 8 p.m.
Tickets $3, students and senior citizens $1.50. Information, 978-3744.

Sunday, March 23
U of T Concert Band.
Conductor, Ronald Chandler; program of works by Holst, Jacob, Kalinekov, Persichetti and new work by James Montgomery. MacMillan Theatre, Edward Johnson Building. 3 p.m. Information, 978-3744.

Mendelssohn at Hart.
Janet Stubbs, mezzo-soprana; Andrew Dawes, violin; Tsuyoshi Tsutsumi, cello; Elyakim Taussig, piano; last of five concerts presented by Music Committee in cooperation with CBC. Great Hall, Hart House. 3 p.m.
Tickets free to Hart House members, available at hall porter's desk; others $2.50 from CBC ticket office, 925-3311, ext. 4835.

Job Openings

Below is a partial list of job openings at the University. Interested applicants should read the Promotional Opportunity postings on their staff bulletin boards, or telephone the Personnel Office for further information. The number in brackets following the name of the department in the list indicates the personnel officer responsible. Please call: (1) Sylvia Holland, 978-6470; (2) Penny Tai-Pow, 978-5468; (3) Manfred Wewers, 978-4834; (4) Ann Sarsfield, 978-2112; (5) Barb Lipton, 978-4518; (6) Clive Pyne, 978-4419.

Laboratory Technician III
($13,960 — 16,430 — 18,900)
Nutrition & Food Science (6), Medical Genetics (6), Microbiology & Parasitology (6)

Programmer I
($12,650 — 14,880 — 17,110)
Medical Computing (4)

Programmer III
($19,100 — 22,480 — 25,860)
Business Information Systems (3)
Computing Services (3)

Programmer IV
($23,540 — 27,710 — 31,880)
Library Automation Systems (3),
Computing Services (3)

Records Assistant
($10,330 — 12,160 — 13,990)
Faculty of Medicine, Academic Services (4)

Engineering Technologist I
($11,990 — 14,120 — 16,250)
Medical Computing (4),
Central Services (4)

Police Constable
($13,312, Union)
Physical Plant, Erindale, St. George, Scarborough (6)

Draftsperson II
($12,650 — 14,880 — 17,110)
Physical Plant (6)

Technical Writer
($14,760 — 17,370 — 19,980)
Computing Services (3)

Fees Supervisor
($14,760 — 17,370 — 19,980)
Comptroller's Office (3)

Career Counsellor I
($15,500 — 18,240 — 20,980)
Career Counselling & Placement (5)

Director of Residences & Students' Union
($18,160 — 21,370 — 24,580)
Victoria College (5)

Professional Engineering Officer II
($21,200 — 24,940 — 28,680)
Computing Services (3)

U of T's spring flower show

U of T's annual Spring Flower Show will be open to the public, free of charge, from 9 a.m. to 5 p.m. daily, Saturday, March 22 through Friday, March 28.

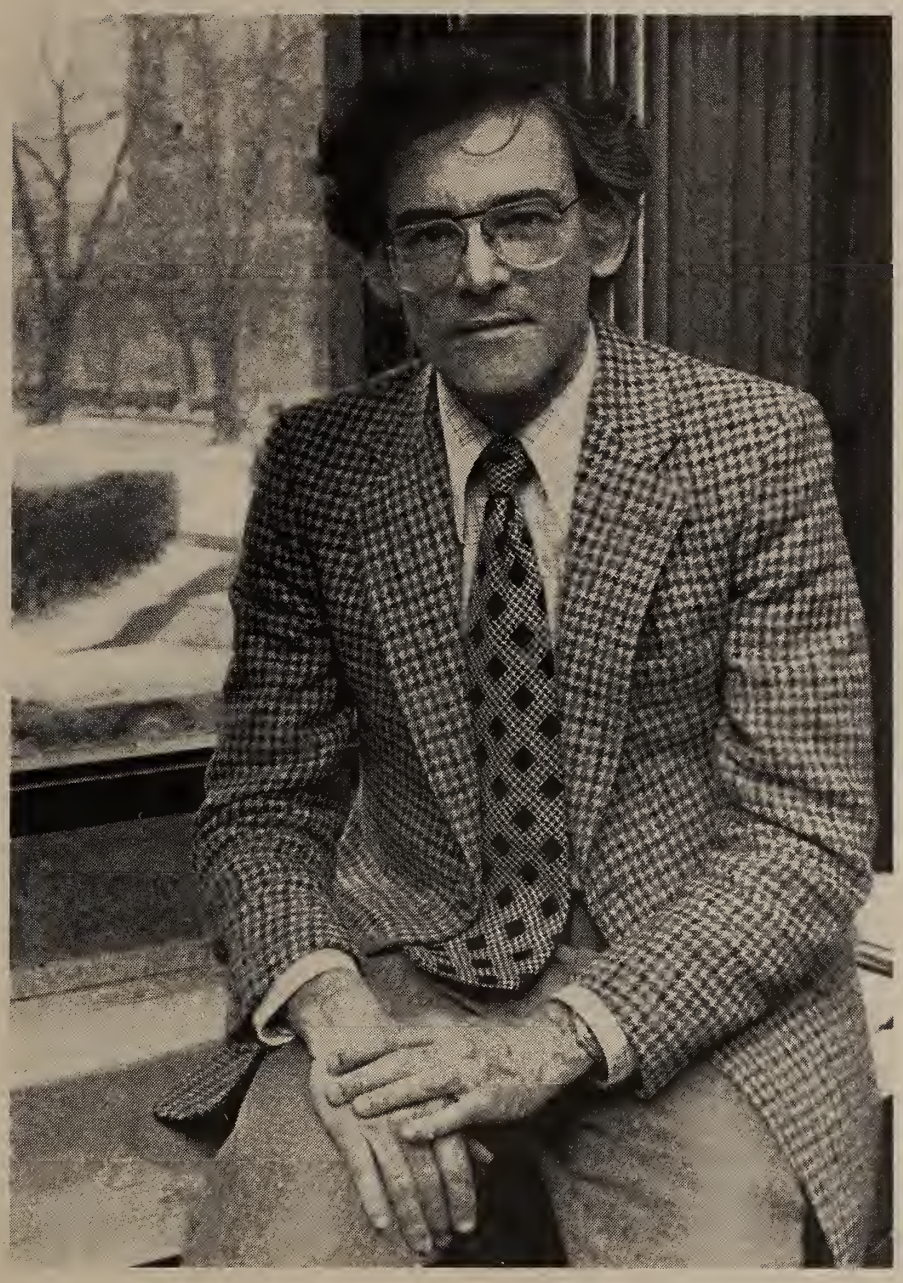
The botany department's greenhouses at 6 Queen's Park Cres. will be dressed up in a garden setting for this annual rite of spring.

Tulips, daffodils, hyacinths and other spring flowers will be arrayed alongside the University's botany projects and its regular collection of evergreens, ferns, orchids, banana and coffee trees and other tropical plants.

Forum

The Colleges: Replacing Sentiment with Fact

By R.S. Lockhart



A circumstance that is particularly threatening to a newly appointed principal is to be asked by some well-intentioned enquirer to "explain" the college system at the University of Toronto. It is even more threatening than being asked (with a sinister emphasis on the verb) what it is that a principal *does*.

While I suspect that experience teaches that a conversational side-step is the way to handle the former question, it is interesting to speculate how many colleagues could provide a coherent answer, especially amongst those outside the old "college departments". I am sure that the number must be quite small, a fact that ought to be quite alarming in a Faculty where all students are required to be members of a college.

Looking at the present role that the colleges play in the Faculty of Arts & Science, I cannot help but wonder what the effect would be if the spell of an administrative magus totally erased the college system on the St. George campus. Who would notice the difference? And on how many of these knowing faces might a smile (the smile of reason?) be seen?

There is no shortage of arguments in favour of dismantling the college system. Why not make college membership a voluntary affair for students as it is for faculty, or at least most faculty? College affiliation means little to students not living in college residences, and a student's initial choice of college is typically made on arbitrary, non-academic grounds. The registrarial function of the colleges is important, but this function could be centralized, along with counselling, scholarships, student aid programs and the other multifarious activities that are currently performed through the Office of the Registrar. Without the college system, principals could return to their departments, either putting their putative administrative skills to better use as departmental chairmen, or at least helping reduce the size of course sections by accepting a full teaching load. Office space in the Faculty could be better rationalized by using space in some of the colleges to re-unite departments that currently constitute a modern-day Diaspora.

Then there are college courses. Most of these, it might well be argued, are the extravagant frills of a more relaxed and plentiful era, not without value perhaps, but quite inappropriate in this age of stringency, an age that has rediscovered the importance of the basic disciplines.

It is a foolish advocate of the college system who fails to acknowledge the force of these arguments. Indeed, when I consider the present impact that the colleges have on students in the Faculty of Arts & Science, it is not difficult to be convinced by them. I have noticed that in defending the colleges there is a curious tendency to avoid the present and speak either of the glorious past (in the case of the colleges that have a past) or of the future's promise.

Too much effort is being devoted to discussions of "the role of the colleges". With the impending revision to the *Memorandum of Understanding*, it is time for the colleges to articulate realistic proposals and for such proposals to receive the administrative action and financial support needed to make them a reality. Either fact should replace sentiment or, indeed, the college system as we know it should be dismantled and the resources better employed.

Of course, as a college principal, I believe that the colleges do have an essential function. In fact they have many functions, not the least of which is the unglamorous one of providing tutorial assistance in such basic skills as effective writing and in making available informed counselling. But as important as they are, these functions do not get at the heart of the matter. The basic function of the college is to reinforce the distinctive role that the Faculty of Arts & Science occupies in the University as a whole. One of the major difficulties in formulating a guiding policy for the colleges is that this distinctive role has not been clearly articulated.

It is difficult to state this distinctive role briefly without seeming glib or even pious, but a few observations can be made. The professional faculties benefit from a strong Faculty of Arts & Science. The best training of skilled and educated professional people demands the presence of a Faculty that bears strong witness to the fundamental importance of disinterested enquiry and painstaking scholarship, to the coherence of knowledge and to the virtue of understanding. And if I refer to these matters in terms of the traditions of liberal arts, I must not be taken to mean the *Reader's Digest* approach to education that is able to condense the sum total of human wisdom into a one-term course on Great Books of the Western World, or offer a 14-week Cook's tour of the history of civilization that equips the student as a cocktail party intellectual. Nor must I be taken to suggest that these traditional values of the university are the sole province of the Faculty of Arts & Science. But in terms of the role of that Faculty in relation to the University as a whole, they lie at the core.

The importance of the colleges lies in the fact that there is a strong tendency within arts and science to lose sight of this important role and to view the Faculty as a collection of independent departments, each training students in the skills of its own discipline. From the viewpoint of individual departments this attitude is wholly justified; it is precisely what departments *should* be doing. But there is a sense in which the Faculty as a whole must be greater than the sum of its individual departments and this wholeness should be visible to students through the undergraduate curriculum and in academic events that transcend individual departments. Colleges must take the major responsibility in this matter precisely in order that the majority of faculty can get on with their own research and the teaching of their discipline.

In meeting this responsibility, I agree entirely with the view that each college should acquire a measure of distinctiveness. In entering the University, students should be able to make their choice of college, at least in part, in terms of their academic interests. But differentiation cannot be taken too far, perhaps no more than a difference in balance and emphasis across broad academic divisions. If a college becomes too specialized then it becomes effectively another department.

It has frequently been suggested that New College should become the "Science College", a concept that appears to mean very different things to different people. But it is one that is being taken seriously in our current deliberations.

I will mention just two of the many ways in which the colleges must increasingly influence the Faculty. The first is in the matter of interdisciplinary programs. There is a justified suspicion of interdisciplinary programs and courses; at their worst they are unimaginative demonstrations of what we all know: that everything is related to everything else. Genuine interdisciplinary programs are those based on a coherent perspective, a perspective that poses important questions whose answers demand the integration of knowledge from different traditional disciplines. African Studies and Women's Studies are New College programs that exemplify a valid approach to interdisciplinary studies. The presence of such programs in the Faculty is important as a constant reminder of the fact that truth was not created in departmental packages.

A second example of the influence that colleges should exert is in the matter of imparting to students a sense of esteem in which academic achievement is held by the University. An atmosphere is needed in which our values are more evident; we need to state more often, more clearly, and more convincingly that creative thinking, sound scholarship and intellectual seriousness are prized above all else. In fact, it seems at times that we go to great lengths to conceal the fact as if there were something faintly embarrassing about the public praise of excellence. We should make a fuss over outstanding achievement, not shroud it in anonymity. The function of awards, medals, prizes and like paraphernalia is less to reward the recipient than it is to make a public declaration of what it is the University most values. Perhaps it is in this connection that the Faculty suffered most from the disappearance of the honours program.

The next few years are critical ones for the colleges. They occupy a highly important place in the pattern of undergraduate education, but unless this role is stated clearly and convincingly, the colleges are in danger of being viewed as fat in a system whose sinews are professional training. In times when lean is beautiful, it is unwise to be seen as fat.

R.S. Lockhart is principal of New College.

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Forum

OCUFA wants our nominations

The February 25 *Bulletin* carried an article about the 1980 OCUFA Teaching Awards. I am writing to indicate that, though the University of Toronto Faculty Association has not been a member of OCUFA since April 1978, we are pleased to extend eligibility for nomination to the faculty members of the University again this year.

In past years, several professors from the three University of Toronto campuses have received OCUFA Teaching Awards. We look forward to receiving nominations from groups or individuals within the University. The deadline for nominations is April 30.

S.J. Shorten
President
Ontario Confederation of University Faculty Associations

Governing Council election

Ballots were mailed on February 29 to the eligible voters for this year's Governing Council election of staff and student members. An outline of the constituencies in which there are elections is given below.

Any eligible voter who has received an incorrect ballot, or no ballot, may telephone the Governing Council Secretariat at 978-6576 to obtain the correct ballot.

Completed ballots must be returned to the Governing Council Secretariat, room 106, Simcoe Hall prior to noon *March 13*.

Ballots were mailed to eligible voters in the following constituencies:

(i) Full-Time Undergraduate Student Constituency

Full-Time Undergraduate Student means all students (except students registered in the Toronto School of Theology) registered at the University in a program of full-time study who are not registered in the School of Graduate Studies. All students in arts and science, on all campuses, for electoral purposes, will be considered full-time if enrolled in four or more courses, including students at Scarborough College.

Constituency I includes all full-time undergraduate students registered in the Faculty of Arts & Science including Erindale College and students at Scarborough College.

(ii) Graduate Student Constituency

Graduate Student means all students registered in the School of Graduate Studies.

Constituency II includes all students in the Graduate Department of Educational Theory; Division III (Physical Sciences) of the School of Graduate Studies; Division IV (Life Sciences) of the School of Graduate Studies.

(iii) Teaching Staff Constituency

Teaching Staff means the employees of the University, University College, the constituent colleges and the arts and science faculties of the federated universities who hold the academic rank of professor, associate professor, assistant professor, full-time lecturer or part-time lecturer, unless such part-time lecturer is registered as a student, or who hold any other rank created by the Governing Council and designated by it as an academic rank for the purposes of this clause. The Governing Council has designated the categories of tutor and senior tutor as equivalent to that of lecturer for the Governing Council elections. (Lecturer includes associates and clinical teachers in the Faculty of Medicine, and associates in the Faculty of Dentistry.)

Constituency III includes all teaching staff members in the Faculty of Medicine.

Images of Modern Greece

During the month of March, U of T, the Greek Students Association, and the Greek Community Inc. will be presenting a program of special events reflecting the cultural heritage of Greek-Canadians, along with the experiences of Greek immigrants to Canada. The program includes concerts, exhibits, panel discussions and lectures and both Greek and non-Greek Canadians are invited to attend. For further information, see Events or call the Community Relations Office, 978-6564.

Chant award

Continued from Page 1

has a PhD from the Unversity of London. He was chairman of the Department of Biological Control at the University of California until he joined U of T in 1967 as chairman of the Department of Zoology, a post he held until his appointment as provost.

He is still president and chairman of the Pollution Probe Foundation, the anti-pollution movement he helped found, and as such provides leadership to the anti-pollution groups in our society. In 1973 he won the White Owl Conservation Award as the "person responsible for the birth of the citizens' action movement in Canada . . . who has worked tirelessly to mobilize the country to environmental action".

Prof. Chant was a member of the Ontario government committee set up in 1974 to study the effect of lead in the Ontario environment and is a member of the environmental assessment board of the Ministry of the Environment.

He has authored or co-authored more than 60 scientific papers and seven books. He is a fellow of the Royal Society of Canada and holds an honorary LLD from Dalhousie University.

The Alumni Faculty Award was instituted by the University of Toronto Alumni Association in 1976. Previous recipients include Horace Krever, the late Douglas Pimlott, Louis Siminovitch, and John Polanyi. Selection is made by a committee consisting of representatives from the administration, the faculty association, the alumni and full-time and part-time undergraduate and graduate students.

Presentation of the award will be made at a dinner to be held at Hart House on Wednesday, April 9. Prof. Chant will speak as well as be asked to address one of the spring Convocations. Presentation of two Moss Scholarships will be made on the same evening. For those wishing to attend, tickets are available from the Department of Alumni Affairs, 978-2367, at $12 each.

Classified

A classified ad costs $5 for up to 35 words and $.25 for each additional word. Your name counts as one word as does your phone number, but the components of your address will each be counted as a word.

A cheque or money order payable to *University of Toronto* must accompany your ad.

Ads must be submitted in writing, 10 days before *Bulletin* publication date, to Marion de Courcy-Ireland, Information Services, 45 Willcocks St. Ads will not be accepted over the phone.

Walk to work, buy a house on Major Street, existing mortgages 10.5%, 3 storey, semi, excellent condition, built-in wine press, double garage, price: $69,500, call evenings, 493-1568.

Furnished sabbatical house for rent — July 1980-81. Detached, 3 bedroom; Avenue Rd.—Eglinton Ave.; Allenby School; Garage, parking, private garden, fireplace, washer/dryer; Childless couple (or mature children) preferred; no pets. $850/mo. Call Prof. R. Ellen, 978-5514.

Oxford rental: September 1980 - June 1981. Three-bedroom house in small Cotswold village, twenty minutes from Oxford. Fully furnished; all appliances; central heating; large open fireplace. Garden and lawn terraced to stream. Duck pond. Telephone Peter Heyworth, 961-4288 or 978-3183.

Owner on sabbatical - spacious 3-bedroom century farmhouse, large treed lot on Mississauga Road. 7 minutes drive to Port Credit GO station and Erindale Campus. Lease available Aug. 80 to Aug. 81 - 278-4862.

Sabbatical rental - south of France. Spacious house (part of former château) with courtyard garden, garage, fully furnished and equipped, telephone, situated in wine-producing village 12 miles from Montpellier and 20 miles from the Mediterranean. Available September 1, 1980 to June 15, 1981. Rent: 1,100 francs monthly plus utilities. Phone W.A. Oliver, 978-2652 or 690-4481.

For Rent. Brand new Townhouse, 338 Melitta Avenue, 1½ miles from University Campus. Unfurnished, broadloom throughout. 3 bedroom, 2 bathroom, living/dining room, kitchen and full (unfinished) basement. Furniture can be arranged if necessary. Available immediately for long or short lease, $600/month plus utilities. Phone Professor P.H. Jones 978-3486.

House wanted to rent. Family of three adults without pets needs unfurnished house near transportation to University of Toronto, minimum two-year lease. Prof. Paul Aird, 233-4196 or 978-8660.

Wanted immediately in good condition wooden double-pedestal office desk with double drawer for hanging files and working surface approximately 60"x36". Will trade standard metal office desk for same. Phone: 978-6734.

For rent, 50 acre farm, renovated farmhouse, giant barn, 3-car garage, very private, ½ hour from Scarborough College, fireplace, orchard, pool, recently purchased for $150,000. Furnished, $600 month from August 80 to August 81. 640-5718.

Wanted to rent: Responsible, home-owning, married couple, no children, non-smokers, no pets, seeks to rent home for one year. Desire reasonably central location, occupancy any time after May 1. Phone/write: the Alexanders, 1113 Richmond St., London N6A 3K4. (519) 434-0838.

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Mar. 24 — Mar. 29
Lisa Caplan Quartet
Mar. 31 — April 5
Moe Koffman Quintet